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# THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

*WITH WHICH IS INCORPORATED THE "BRITISH ARCHITECT."*

VOL. CXXII.—No. 4128. MARCH 17, 1922.

## "THE ETERNAL TRIANGLE."

THE art of building should not be compared with the other arts, and though the attempt is often made architecture invariably suffers from the comparison and architects are placed in a false position. Some day we hope to see a logical explanation of architecture which will be both a standard of criticism and a guide to the uninitiated. When objects of art can be bought we presume the artist has at least had his own way in the matter. He may conform to no school, obey no rules, and he can repudiate any restrictions or sources of inspiration. Do people now think that the old generalisation that an architect was either an architect or he was not has been demonstrated to be wrong? Individualism, in the architectural sense, did not necessarily imply freedom from the patron or from the discipline and limitations imposed by finance. Our architectural schools prove that a high standard of academic design can be taught, but the fundamental conditions which govern architecture are the discoveries of experience, unless the young architect is possessed of a clear and logical mind. One may refuse to believe that the mathematical principles of Mr. Beverley Robinson can have any real connection with architecture, yet another type of mind will eagerly absorb these principles and apply them with a remarkable degree of success. It has been stated somewhere that "logic by itself will never produce good architecture, yet no architecture has ever been produced without it." An analytical sense and an orderly type of mind are important factors in the preparatory stages of design, and the result is reflected in the architecture and in the administration of the work.

The war provided us with a new type of business man placed in control of buildings. The desk heaped with papers, the air of rush and bustle, and the correspondence by telegram, had their due result in abandoned schemes, high costs, and an entire absence of control and responsibility. A subtle distinction has been made between "business men" and "men who know their business." We will not attempt any hybrid definition of architecture in relation to art and commerce, but it may safely be said that in no other profession has a greater penalty to be paid for any lack of judgment and right thinking. The truth is that an art which is of necessity intimately connected with business and social conditions must inevitably be a severe test for different temperaments. Many architects will testify to the apparently hopeless tangle which can be developed in the early stages, with numerous sketch plans, clients changing their minds, and insufficient money to meet the requirements. In the end there is generally the usual compromise which can be traced through everything and can be seen plainly in the appearance of the building.

Much time might be saved and more satisfactory results obtained if architects would recognise three essentials, namely, (1) accommodation required in a building, (2) cost, and (3) quality of the work. They are not set down in sequence or in order of importance; they vary according to the type of client, the chief point being that the client cannot control all three items. This is a mathematical proposition; the client may have his choice of any two of these factors, but the architect must control the third. What frequently happens is that the client controls two conditions and interferes with the third. There is no *vade-mecum* on behaviour and etiquette for the client, so he will dictate the number of rooms he requires in a house and the amount of money he is prepared to spend. Obviously under these conditions only the architect can determine what the quality of the work can be; in short, the architect in this instance controls the type and appearance of the house. The trouble begins when the client states the kind of house he likes—often quite unsuitable—and instances an example he has seen somewhere. If the amount of money is limited—which it frequently is—the architect is now fairly launched in his course of compromise. Without any clear notion of what is wrong the muddle becomes more involved; the house must be too big, stone slates and oak floors are out of the question, the last interview has added another bedroom, and another "delightful" bay window has since been seen "somewhere." To his credit, the architect tries to meet all these conditions, and it is his misfortune to learn by bitter experience that the fatal "extras" are the penalties.

It may be taken for granted that most clients know what they want—though this is an entirely different thing from knowing what they need—and it may further be taken for granted that they have determined the amount of money they are prepared to spend. To complete the triangle the architect must supply the third dimension. We believe that a proper conception of this triangular contest would clear up many difficulties. We can appreciate the happy position of the architect whose client states that he likes the old Cotswold type of building with "real" stone mullioned windows, and leaves it to the architect to say how much building he can have for his money; or how much money it will cost him to obtain the size of house he wants. Compromises are seldom happy; they generally result in buildings which are obviously compromises, besides bringing an unhappy element into the relations between architect and client. The usual complaint that the money has been insufficient may be only half a truth; it may be merely another way of saying that the house was too big and the money insufficient to obtain the architectural effect desired by the architect. An architectural design is not the product of caprice, and the building should be judged as an attempt to meet certain social conditions. We have at one end the building upon which it is obvious that no money has been spared, and where the architect was free to design what, in his opinion, was a work of art; while at the other end we have the speculative building which is also a work of art in so far as it represents a great deal for very little expense. Between these extremes lies the great mass of compromises which represent the tragedies and the disappointments, and incidentally they represent the hardest of all work because they attempt too much and to satisfy too many demands.

Much that has been said above may appear to be obvious, but it is necessary to emphasise the fact that a clear and orderly mind is an essential to an architect, and that it will be reflected in his architecture. A proper appreciation of fundamentals would simplify the human side of an architect's profession; and a simpler architecture might result from simpler solutions. To some people limitations may be tiresome, but to many they are a necessity, and form a basis upon which good work has been done.

G

# NOTES.

**High Buildings and Sunshine.**

It has probably been generally supposed that if the height of buildings were to be regulated by climatic conditions the natural rule would be to have low buildings and wide streets in northern climates, and high buildings and narrow streets in southern ones. But Mr. Barry Parker, in his excellent paper on "Zoning" at the Town-Planning Institute, pointed out that the experience of those who lived in hot countries did not support that theory, and that in Sao Paulo (Brazil) the authorities have imposed a condition that the sun's rays must reach to the bottom of a building for at least two hours in the day. So they get houses spaced apart differently for all the different orientations of the street from due north and south to due east and west. The sun's rays in the eradication of disease are a more powerful agent in tropical climates than in temperate ones.

**The Abuse of Advertisements.**

Based on the fact that our roads and public buildings are for common use and enjoyment is the argument that they should not be used for purposes of advertisements; if they are so used, it is an infringement of the rights of the public. The abuses of advertisements are very great and many of them it will be difficult to prevent, such as the defacement of the beautiful country alongside a railway line by advertisement boards or the vulgarities and indecencies to be found in shop windows. We hope, however, an energetic and endless war will be carried on to protect the public as far as may be. A pertinent letter in the Press points out that whilst the law protects our ears it should also protect our eyes.

**Advertisements in Post Offices.**

The fact that the Post Office is now securing tenders for exhibiting advertisements in the interiors of its buildings must not blind us to the objections lying in such a proposal. It raises many legal questions, and the right to refuse advertisements involves points of difficulty, though these appear to us the least of the objections. It is certainly most undesirable that the taxpayers who contribute to maintain these public offices should be involved in acquiescence with advertisements of which they may disapprove. It is an offensive encroachment on the dignity and detachment which should surround Government functions for trade interests to be allowed to penetrate them. The commercialism which already defaces our public places should at least be kept from vulgarising Government buildings. Buildings which are maintained out of the national exchequer should not be mixed up with trade interests at all. We must pay our debts, but these shifts to get money are below the dignity of government, which should not surrender its prestige to temporary difficulty. In the long run the security for government rests on the respect felt for it, and this making use of our post offices in such a way will not strengthen it. It suggests an instability and dependence on catchpenny methods which are opposed to the august character which should attach to it. Next to the Churches we look to the Government to sustain that conduct in action which retains the respect of its citizens, and these short views increase the belief that the much-vaunted government by business men is no alternative for that statesmanship which perceives the necessity for preserving the prestige of government. Surely the Roman prohibition of street advertisements as soon as they became offensive by their vulgarity, because they lowered the dignity of the Empire, should be remembered by all of us.

**Water for Building Purposes.**

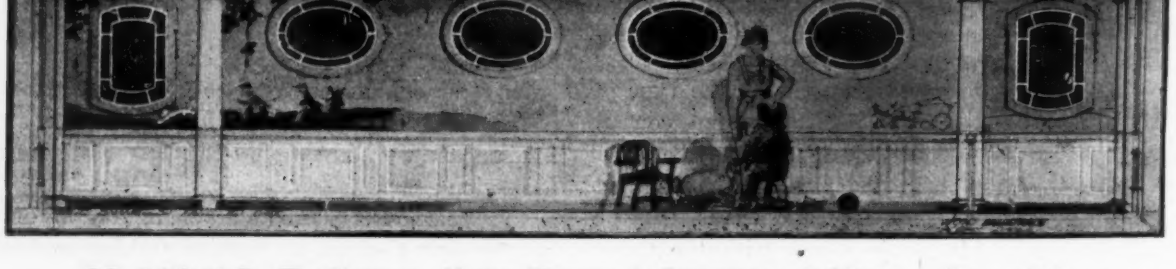
The question is now being frequently asked by those preparing estimates as to what the effect of the Metropolitan Water Board Charges Act, 1921, which comes into operation on April 1, will be on the cost of water for building purposes. The answer is that this Act neither cancels nor revises Clause 17 of the Charges Act of 1907, which stipulates that "Any builder being about to erect any building or part of a building who shall require a supply of water for that purpose shall be deemed to be the occupier of premises within the meaning and for the purposes of the Section of this Act relating to 'Supply by measure,' provided that if the Board so determine they may instead of affording the required supply by measure afford the same at a rate not exceeding seven shillings per hundred pounds of the probable total cost, after making such allowance as the Board may think reasonable for decorative or iron or steel work not requiring the use of water." Of course, the increased cost of building has itself automatically more than doubled the cost of water required for a structure over the pre-war expenditure.

**The Engineering Dispute.**

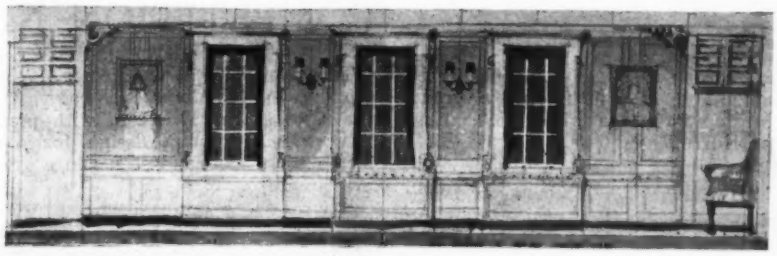
It is to be hoped that, even now, a prolongation of the dispute in the engineering industry may be avoided, but when matters of principle are involved past experience has shown how difficult may be a speedy settlement. There are again signs of a slight revival in trade, but it is a tender plant and certainly will not survive the withering blast of a prolonged dispute. Sir Milton S. Sharp (Chairman of the Bradford Dyers' Association), at the recent annual meeting of the Association, gave some very instructive figures as to the loss sustained by the country in the coal-mining dispute, which he placed at some three hundred million pounds, and he also showed the disastrous results of that great dispute on the industrial position of this country; it would be well if, when a dispute arises, the disputants could study the aftermath of former disputes before resorting to the more drastic steps attending disputes.

**Trade Disputes and Balloting.**

In the present instance, agreement seemed to have been nearly reached when the terms arrived at were recommended for acceptance by the Executive Council of the Amalgamated Engineering Union, but they were rejected when referred to the members on a ballot by 50,240 votes to 35,525, that is, by a majority of a little over a third of those voting; but the total membership is some 400,000, and this seems to raise a point deserving the attention of all trade unionists where such grave issues



**S.S. "Athenia": The Nursery.** Messrs. Willink & Thicknesse, Architects. (*See p.* 403.)



S.S "Athenia": The Lounge. Messrs. Willink & Thicknesse, Architects.

are at stake. If an agreement recommended by the Executive is subjected to ballot, should there not be some provision both as to what shall be considered a sufficient number of members voting to represent the body and as to the extent of the majority required to carry a resolution when voted upon? As regards this latter requirement a two-thirds majority might well be required where a recommendation of the executive is under consideration. In the present case a resolution of paramount importance, not only to the union but to the country, has been carried by a majority of 14,715 votes, the members balloting being less than one-quarter of the whole membership. We can only still hope that an agreement may be arrived at, and that this year will not again be marked by a series of shocks to our tottering industries.

**Export of Ancient Glass.**

A correspondent in *The Times* calls attention to the great loss suffered by the nation through the export of ancient painted glass, the whereabouts of which is now no longer known. In pointing out its value for educational purposes, the writer suggests that the weak points in the matter of design by the modern glass painter arise through his having seldom had acquaintance with ancient examples. This can hardly be said to be the case, as there are, fortunately, still many fine examples, such as those of York or Fairford, not to mention many others, remaining in this country. The value of such knowledge is not to be underrated, and the study of ancient glass is a necessary foundation for modern practice. But the service it can bestow depends on the intelligence with which we study it. Most of the bad glass done in the Victorian period claimed to be traditional, not because it was like ancient glass, for nothing was more unlike than most of it, but because it imitated the form and manner of the ancient glass. Missing its spirit through a misinterpretation of the scope of tradition, it sought conformation with the letter. A doctrine of what painted glass ought to be detached it from life and reality. The artist became either absorbed in the archæologist or in the business man, neither of whom includes equipment for creative art. An intelligent study of ancient glass will not mislead us into imitating the forms, but will encourage and inspire the artist to work in the same spirit of devotion and unworldliness.

**Ancient Paintings in Rome.**

It is not often that a discovery of ancient paintings such as those revealed during an excavation in Rome are brought to light, and the particulars, supplied by Professor Lanciani, point to their being of special interest. These paintings of the Apostles, which were done soon after their lifetime, present them both in regard to their dress and attitude as Pagans! One scene, so we are told, shows Christ dressed as a shepherd being adored by His followers, "who, instead of kneeling with their hands joined as Christians do, stand with their arms raised as Pagans used to stand." Considerable artistic interest is claimed for these paintings as showing the proficiency of the Romans in painting as well as in sculpture. The account in a contemporary from which we gather these particulars also states that the unique value of these paintings consists in the fact that up to the present we have had no pictorial representation of the Apostles before the fourth century, while those in the hypogeum are at least 200 years earlier.

**The Work of Mr. Reid Dick.**

We have followed the work of Mr. Reid Dick for a considerable time with increasing interest, for it has commanded an especial regard for a notable combination of graciousness and dignity, and its individuality nearly always disclosed the author. It is difficult to imagine anyone to whom we could look with equal confidence for a worthy result in the Kitchener memorial, and we may feel assured that the design will not only please artists but will also appeal to the general public.

New Steamship Offices in St. Mary Axe, E.C.: The Hall.
Mr. Stanley Hamp (Messrs. Collcutt & Hamp), Architect. (*See p.* 408.)

# GENERAL NEWS.

### Professional Announcement.

Messrs. Daniel Smith, Oakley & Garrard, land agents, surveyors and auctioneers, of 4 and 5, Charles-street, S.W.1, have entered into amalgamation with Messrs. H. & R. L. Cobb, of Rochester, and 61 and 62, Lincoln's Inn-fields, W.C.2. They have also taken into the new partnership Mr. E. B. Gillett, who has been their principal assistant for a considerable period. All the existing partners are remaining.

### An Architect's Estate.

The late Mr. Ernest Newton, R.A., Past-President of the Royal Institute of British Architects, who died on January 25 last, left estate valued at £11,313.

### Lord Kitchener Memorial.

It is reported that in the competition for the memorial to Lord Kitchener the successful competitor is Mr. W. Reid Dick, A.R.A. The memorial, it is stated, consists of a recumbent figure of Lord Kitchener, with figures of St. Michael and St. George and a Piéta, and it will be placed in a chapel at the base of the south-west tower at the entrance of St. Paul's Cathedral. The architects are Mr. Mervyn Macartney and Mr. Detmar Blow.

### The Proposed School of Hygiene.

The Committee appointed by the Minister of Health to advise as to the preliminary steps to be taken with regard to the site and planning of the School of Hygiene, which the Rockefeller Foundation has promised to provide, is composed of Sir Arthur Robinson (chairman), Sir Frank Baines, Dr. H. H. Dale, Sir Walter Fletcher, Sir William Leishman, Sir George Newman, Sir Cooper Perry, Sir Herbert J. Read, and Dr. H. Meredith Richards (secretary).

### Egyptian Archæology.

In an account of the archæological work carried out during the year 1920, the annual report of the Gordon Memorial College at Khartoum states that in the winter months of 1919-1920 Dr. Reisner resumed work on the site of temples at the foot of the Holy Mountain, now called Jebel Barkal, and succeeded in disentangling much of the complicated history of the greatest of all these temples, which was dedicated to Amon of Napata. The temple was originally built in the time of the 18th or 19th dynasty; it was restored by Seti I in the latter dynasty, and a chapel south of the cemetery was added by Ramses II. Piankhi, the first king of Ethiopia and Egypt, reconstructed the second court and, later in his reign, added the first court. A kiosque was built in the second court by Tanut-amon, the last of Piankhi's descendants to rule Egypt as well as Ethiopia, and a kiosque was built in the first court by one of the later Ethiopian Kings about 300 B.C. A third kiosque was built in front of the first pylon by one of the early Meroitic kings, and the whole temple was apparently reconstructed for the last time by King Nutek-amon about 100 A.D. It was replastered still later, but had fallen into ruin and disuse by about the sixth century, when the forecourt was entirely filled with small dwelling-houses. This temple, therefore, can be shown to have had a continuous history for a period of nearly 2,000 years. In the course of the excavations, fine stelai of Thothmes III and Piankhi were found, and a sphinx in good preservation of one of Piankhi's successors; the two latter objects it is proposed to take to Khartoum. The bases of the stelai, which were taken to Cairo in the past century, were uncovered, and two other stelai, unfortunately of no great historical value, were found still in position. The remains of a long inscription in Meroitic script were found on the second pylon with what was probably a translation in hieroglyphics on the opposite wall, but the remains are too fragmentary to add much to our knowledge. Before the close of the season, Dr. Reisner spent a few days at one of the Pyramid fields near ancient Meroe in the Berber Province, and succeeded in finding a group of tombs contemporaneous with the Piankhi Cemetery at Kurru.

### The Concrete Institute and the Building Exhibition.

In connection with this year's Building Trades' Exhibition, to be held at Olympia from April 11 to 27, the Council of the Concrete Institute has arranged for its members to have the use of a sitting-room over the main entrance. The Secretary will be present every day from 3 o'clock onwards. A series of discussions has been arranged to be held in the small Conference Hall (over the main entrance) each day from April 18–21 inclusive, commencing at 5.30 p.m. Each discussion will be opened by a short paper. A Fancy Dress Ball and Carnival is being held in the Pillar Hall on April 21, all profits from which will be devoted to the Architectural Association Schools' Endowment Fund. Full particulars may be obtained from the Secretary of the Institute. The discussions are arranged as follows:—April 18, "Training the Concretor" and "Recent Developments in the Industry," to be opened by Mr. E. Fiander Etchells (President); April 19, "Concrete Roads" and "Use of reinforced concrete in highway bridges," to be opened by Dr. Oscar Faber; April 20, "What life can be assigned to works of reinforced concrete for the purpose of Government loans?" to be opened by Mr. G. C. Workman; April 21, "Concrete block building," "Reinforced floors," and "Use of pre-cast work in building structures," to be opened by Mr. E. S. Andrews.

# COMPETITION NEWS.

### Newport.

The Newport War Memorial Committee proposes to promote an open competition under the rules of the R.I.B.A., with premiums of £50 and £20, for a design for a cenotaph memorial of Portland stone on a granite base in Clarence-place.

### Auckland.

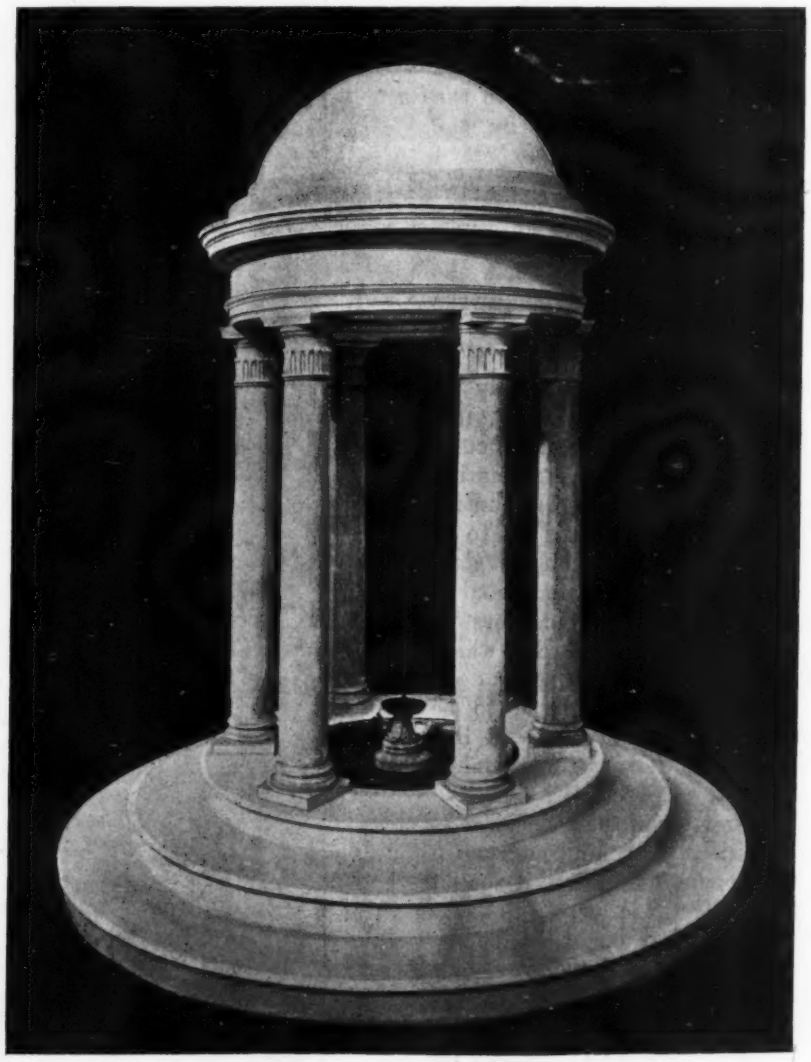
Three photographs showing different aspects of the site of the proposed Auckland war memorial have been lent to the Royal Institute of British Architects, and are exhibited in the R.I.B.A. Library for the benefit of competitors.

### Colour Competition.

In a list of answers to questions issued by the R.I.B.A. in connection with this competition, the following points are decided:—The main cornice may be at fifth-floor level, and the top floor made an attic story; one story above 80 ft. from pavement level may be shown; the main cornice may be shown above the fifth-floor line; only cornices (up to 2 ft. 6 in.) should project beyond the building line; the use of facing bricks in natural colours supplemented by the materials suggested in the competition is not permissible; the following marbles are on view at the R.I.B.A.:—Sicilian, dove or blue turquin, tinos green, yellow echaillon, Napoleon, lunel rubane.

### Other Competitions.

Other competitions still open include the following (the dates given are, first the sending-in date, and second the issue of *The Builder* in which full particulars were given):—Auckland war memorial (June 30; Sept. 2, 1921); Trujillo (Peru) monument (June; Jan. 13); Colour Competition (May 1; Feb. 17).



**Fountain in White Cement.**
MESSRS. MEWES & DAVIS, Architects. (*See p.* 418.)

# CORRESPONDENCE.

### Registration and Unification.

SIR,—Mr. Keen states that the recent special general meeting at the Institute was "called at short notice, and with no proper case laid before the members in advance." The meeting was requisitioned by the general body in the only possible way, under By-law 65; it was "called" by the Council, and if called at short notice it was not the fault of the League; but please note I am not complaining, for I understand the Council gave as long notice as possible.

Now, as to Mr. Keen's statement that the members of the Institute had no proper case laid before them in advance: surely Mr. Keen must know that the views of the Unification and Registration Committee have received the greatest possible publicity, that they formed the subject of the late President's address at the Liverpool Congress, that he himself spoke at that meeting, that he has written many letters to the Press, that our President has visited certain provincial centres and spoken in support of those views, and that various London men have stumped the country with the same object! Come, come, Mr. Keen, you are not doing your own side justice.

The position at the present time is apparently this:—The Council say, "We have accepted the basic principle of admitting members to the Institute without examination, and before the passing of a Registration Act; but until you have details of our scheme, and we tell you how it will be done, you ought not to object." This reminds me of the polite lunatic who says, "Good morning, Sir, I am going to murder you; I am not sure if I shall poison you or shoot you, but until you know how I am going to do it, it would be a most ungentlemanly thing for you to object. *Au revoir.*"

London. SYDNEY PERKS.

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Mr. Perks has forwarded us a copy of a letter he has received from Mr. Frank W. Simon, F.R.I.B.A., which is as follows:—

"Please add my name to the R.I.B.A. Defence League. I believe in neither unification nor registration. The latter I am sure will never be granted. Engineers, large firms of architectural decorators, perhaps even builders, will oppose it; and why not? With their knowledge and experience they can do just as good work as 50 per cent. of practising architects, and how can Parliament reasonably be asked to deprive the public of the architectural services of these people, for I take it one of the objects of unification and registration is 'to keep our ain fish gats for our ain sea maw.'

"I cannot see that the standard of architecture will be raised thereby. This can only be achieved by a more sensitive artistic conscience and desire on the part of the individual architect to spare no efforts to achieve the best that is in him. The public will appreciate this, and architects, in the measure in which their efforts are successful, and thus will be educated in an appreciation of architecture. Just as in music the public of a certain town may attain to an appreciation thereof by the production of good music in their midst, so would the public be educated in an appreciation of architecture and the services architects can render if a series of buildings, great and small, bearing the stamp of sincerity and real architectural merit were erected in their midst. How would unification help this desirable end? . . ."

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SIR,—Mr. Flockton says it would clear up confusion if you could induce some "zealous registrationist" to tell us in a few terse sentences what particular aims and objects he desires to attain by a Registration Act, particularly if he will state whether it is desired to obtain an Act which (1) will forbid any person using the style or title of "architect" unless he is registered; and (2) will prevent any person practising as an architect unless registered.

As a zealous unificationist, I reply that through unification I hope the answer to the second question is in the affirmative. The aims and objects of unification, as I see them, are: (1) To develop, elevate and advance towards perfection the architecture of this country, that it may become the expression of the highest and best progressive national spirit, and a permanent record of its period; (2) to increase the influence of the R.I.B.A. by concentrating the interest of architecture, and of architects, in a truly representative body with branches in every centre of the Empire; and (3) to improve the status and position of architects by making them members of a real learned society. JOHN E. YERBURY.

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SIR,—There has been a good deal of correspondence in your columns lately on this subject. May I, as one who entered the profession over forty years ago, who has never yet joined any professional society (the A.A. in student days excepted), ask for information as to what is contemplated?

I have had an office of my own for over twenty-five years and have one now, but I cannot recall receiving any circular or communication on the subject. Personally, I doubt if registration is of any use, but as I cannot specify any positive harm I do not attempt to oppose it.

Apparently we are all expected to become members of the Institute. Once upon a time the R.I.B.A. was a society of learned men with the object "of advancing and diffusing architectural knowledge." It has been backed up by a series of Royal Charters, but at the first it was, and by its constitution it is now, a club. The greatest architect in the land—whoever that is—or, if they could return, Sir Christopher Wren or the unknown genius who designed a mediæval cathedral, have no right, consequent on ability, to demand admission. They must be proposed, seconded, and elected—or possibly blackballed. (Probably the "A.R.I.B.A.," whose letter you recently published on "M.U.G.S.," would do this.)

Now, the point I wish to make is this: Membership of the club and registration of competent architects are two absolutely distinct things. They may be carried out by the same officials and under the same roof, but that does not make them one. If we are to have a register it must include every competent architect, and to ascertain whom these are there must be a test; when a man has passed that test his name must go on the register as a consequence, and moreover it must stop there. To-day entrance to the Institute and other societies is gained not by merit but by election (although only those who have passed a certain test are eligible). It follows that, as the members elect, the members can expel, or reverse their decision. The President of to-day (by election) may be dethroned to-morrow in consequence of an unwise (or, shall I say, an unpopular) speech. Suppose he feels so hurt that he resigns his membership of the Society or Institute altogether. Do his technical qualifications instantly vanish? He may not be a diplomat, but surely he is still an architect.

If membership of the club and registration are to be one, what is to happen if membership ceases in the middle of a big contract? Is the client to be forced to give up the architect he has selected? And who is to force him? The Institute may control its members, but surely it cannot control the client. And if the architect is to continue with the contract after his membership of the Institute has ceased, why not with new work? In other words, in this respect membership of the Institute is of no use. Evidently, also, once an architect has exhibited suitable qualifications and been registered he must remain registered.

There is one other point, if registration is to come, and that is to define an architect (or whatever the registered article is to be called). I confess I am unequal to it.

In concluding, I should like to ask whether registration is proposed for the benefit of the architect or the client? If the latter is being fooled by the incompetent masquerading as architects, surely it is for the public to cry out and ask for a list of the competent. Has the public ever done so? As the matter seems to have originated with members of the Institute, presumably they feel the need for protection. I cannot imagine that the most ignorant self-made millionaire would walk into the nearest estate agent's office (with "architect" over his door) and expect it to be the sort of place where he would find a Norman Shaw, neither can I imagine that a man building himself a bungalow with a handful of bricks and some second-hand joinery would seek introduction to a Norman Shaw to prepare such plans as are necessary to put before the local authority before the work can start. HORACE R. APPELBEE.

P.S.—I have assumed, none too clearly, perhaps, that one main object of registration is to prevent the unregistered from practising.

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### A Labour-Saving House for a Country District.

SIR,—What I should like to see is a labour-saving house designed, say, for a country vicarage, a farmhouse, or an estate agent's house, five or six miles from a railway station, with no gas or electric supply and with no water supply except from a well. I am aware that the makers of the electric plants advertised will undertake to overcome the difficulties, but there is again the question of cost. I was asked by a farmer friend some little time ago to get him an estimate for lighting his house and buildings, but the price asked was over £400 when it came to wiring and fittings for about thirty lights. This is a serious item, and one wonders whether the cost of fittings was included in the estimate of the prize-winning designs in the recent competition for a labour-saving house.

The question of labour in the house is more acute in the country than in the town, but I have yet to see the design evolved that saves much time in a house of five or six bedrooms where there are no modern labour-saving appliances available. "ESTATE CLERK OF WORKS."

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### Students' Work for Public Buildings.

SIR,—The reason given for the use of students work for mural decorations in our public buildings is its cheapness, quite apart from the fact that if there is to be any relationship between value and price this must be so, as representing the difference between master and apprentice. Surely, while the State pays a large part of the students' education, providing workrooms, &c., it is not even fair competition. In theory at least it is not allowed by the Royal College of Art or in any school under its control I do not know whether the same regulations apply to the L.C.C. schools, &c., but if they are free to do public work the law that in other cases makes it illegal to use the money of the tax or ratepayers to undersell them should be applied to such schools.

If the Press and the public forget the great difference between the students' and artists' work, it makes it difficult for us ourselves to remember it; we may also forget the years of endeavour which divide facility from treatment, mannerism from style, fancy from imagination, and the knowledge of life and humanity, the strengthening and moulding of character necessary before we dare attempt to interpret the race, and write the epic of our own times on the walls of the public buildings of the country. No doubt there have been in the past examples of fine work by men no older than the students suggested, but in each case the difference between the mature achievement and their early work remains, and they then were masters at that age, not students.

The Royal Academy has stated that it wishes to be consulted and is anxious to give advice in all cases of mural decorations. If this is to be so, should not they accept that the restrictions be applied to them which makes it inadmissible for Cabinet Ministers, members of county and municipal councils, &c., to undertake directly or indirectly work of any kind under their control, to free the R.A.s from any suspicion of partiality, and at the same time to secure as much as possible that this should be so?

"ART STUDENT."

[Further letters are given on p. 421, and others are unavoidably held over.]

# THE CHAPTER HOUSE AT ST. ALBAN'S.

BY SIR EDGAR WIGRAM, A.R.I.B.A.

IN the autumn of 1920 the St. Alban's Archæological Society obtained permission from the Dean to carry out certain excavations on a portion of the site of the monastic buildings now included in the Deanery garden. The main object was to verify the form and dimensions of the Chapter House, indicated somewhat hypothetically on a conjectural plan of the Monastery compiled by the Rev. H. Fowler in 1878. This plan had been principally based upon the descriptions contained in the monastic records; but some tangible evidence of its accuracy had been found in the traces of sedilia which were uncovered a little later by workmen excavating for the foundations of a gas standard near the S.-W. angle of the slype.

The Society did not succeed in obtaining all the data which it hoped for. It did, indeed, discover the foundations of the southern wall of the Chapter House, proving that (like most Norman chapter houses) it was oblong in form, and that its internal width was approximately 38 ft., but it failed to discover any trace of the eastern wall, and consequently could neither determine the length of the building nor solve the disputed question whether the eastern end was square or apsidal. Most of the walls had been so thoroughly demolished that the very foundations had been grubbed up and removed; and perhaps under such circumstances the Society may consider itself fortunate in having been able to rescue some fragments of the original paving tiles.

The site which the monastic buildings occupied is a hillside with a south exposure, sloping down from the Abbey Church to the little river at an average gradient of about 1 in 10. Conforming to this fall, the floor level of the Chapter House is about 8 ft. lower than that of the adjoining transept—say 18 in. below the level of the cloisters (from which it was entered), and 5 ft. below the original floor level of the slype.

The tiles with which it was paved are about 8½ in. square and 1½ in. thick—very similar in size, colour, and texture to the red "quarries" that are familiar to us in old farm houses. They are highly glazed, and the devices with which they are ornamented are embossed upon them in bold relief, a method of decoration that has an unpractical side to it, as the raised pattern is necessarily much subjected to wear and the recessed surface is very awkward for cleaning. It cannot be denied, however, that the appearance is very effective. The glaze seems in itself to have been of a bottle-green colour; but inequality in the firing has produced many gradations in the finished tones of the tiling, from olive green through various shades of brown to an almost Venetian red. The tiles were probably made locally, and perhaps in a brick-field under the direct control of the Monastery; for it is believed that no similar tiles have been discovered elsewhere except on the site of the Church of St. John at Hertford, which was one of the Monastery cells.

Most of the tiles were evidently removed at the Dissolution for re-use in other buildings. Those which were found still *in situ* may be presumed to have owed their preservation to the fact that they lay just inside the entrance, and had consequently suffered from wear to a greater extent than the rest. Examples of the three patterns found here had been already discovered both at St. Alban's and at Hertford, and had been reproduced in 1860 by Sir Gilbert Scott (then superintending the restoration of the Abbey) for use in the repaving of the presbytery. But the arrangement of the tiles in the Chapter House, in groups of nine, chequer-wise, with running bands separating the chequers, is certainly more effective than the arrangement adopted by Sir Gilbert Scott, in which the running bands are omitted. The replicas also suffer from the fact that they are too uniform in colour.

No examples had previously been found of the foliated and geometrical patterns, and these have now been discovered only in fragments. The theory that they had been employed in the paving of the dais is grounded on the fact that they were mostly unearthed from excavations at the eastern end.

The character of the designs seems to point naturally to the inference that the foliated tiles are of 13th-century workmanship, while the geometrical tiles are later—possibly as late as the 15th century. But the former type, generally speaking, show no greater signs of wear than the latter, and it is suggested that the original patterns may have been preserved and reproduced.

The monastic records give the positions of the graves of no fewer than eleven abbots who were interred beneath the floor of the Chapter House, not to mention the grave of Adam the Cellarer, who, "on account of his skill and diligence" (not his piety and virtue, be it noted, though in justice to him it should be admitted that these were also conspicuous), was considered worthy of the honour of being buried by their side. But search in some of the positions indicated served only to give assurance that the graves had been already rifled.

All the broken tiles that were unearthed have been removed and preserved, but those which were found *in situ* have now been again covered over. It was found impossible to raise them, for, although they were superficially in sound condition, they were actually almost disintegrating and were traversed in all directions by microscopic fissures. To leave them exposed to the weather would have involved their inevitable destruction, but they may yet last for many years in their present position, and, as their exact site is known, they can be uncovered if desired.

The Society hopes at some future date to resume its search for the eastern wall of the Chapter House, but this will involve excavation under a public footway, and is impracticable at the present time.

## OBITUARY.

The death is announced of Mr. William Bedlington, aged 76, of Gosforth, a well-known north-country architect, who had been in practice in Newcastle for many years.

The death occurred at Llanelly, on Friday last, at the age of 71, of Alderman William Griffiths, J.P., head of the firm of William Griffiths & Sons, architects and surveyors. Deceased designed many buildings in Llanelly, including the Town Hall, Exchange Buildings, Y.M.C.A. buildings, and London City and Midland bank. He was for many years a member of the County Council, serving as Chairman of the Main Roads Committee.

The *Journal* of the Royal Institute of British Architects announces the death of the following members:—H. A. Emmett (Licentiate) and V. A. Edlin (Licentiate).

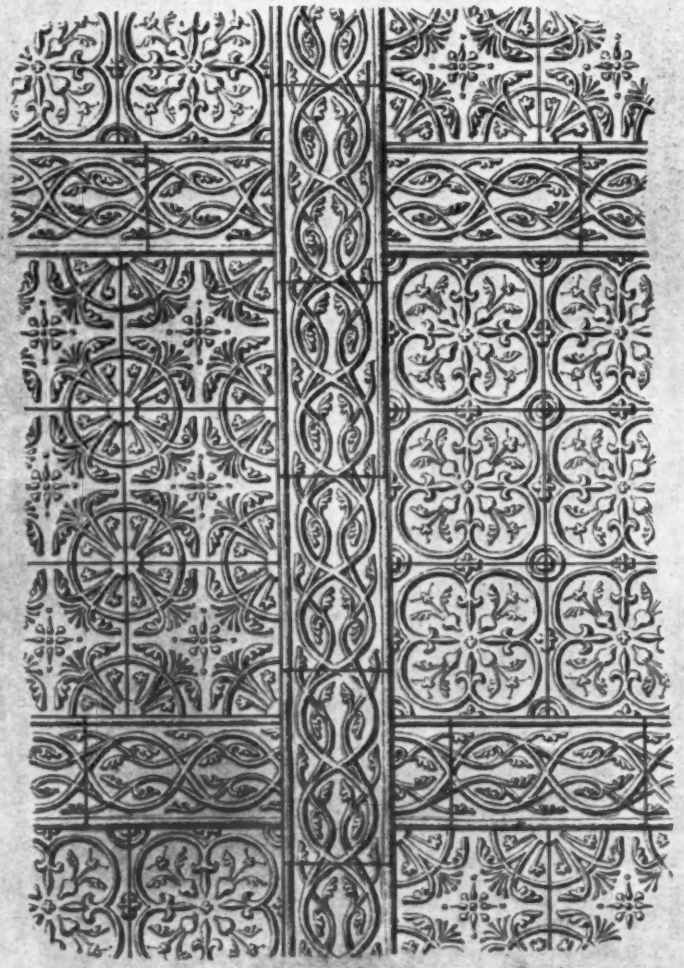
SLYPE
North Wall of Deanery Garden
Gate
Many fragments of Tile Paving
Tile Paving discovered in situ.
Traces of interments under.
Several pieces of dressed stone excavated.
(Apparently portions of a Screen)
CARRIAGE DRIVE
South Wall of Chapter House
Concrete Foundation
(Level on top)
Wall at North end of Undercroft to Dormitory

EXCAVATIONS AT THE DEANERY OF ST. ALBAN'S.
Measured and drawn by SIR EDGAR WIGRAM, A.R.I.B.A.
[The figures indicate approximate heights in feet above datum level. Datum level is approximately 10 ft. below level of Slype pavement.]

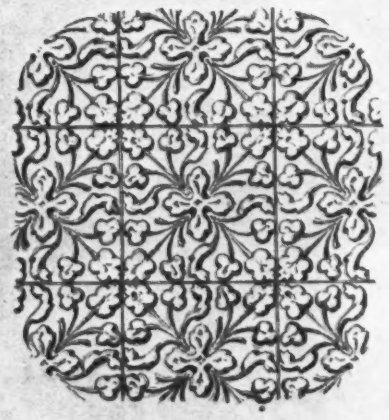
## · St Albans Cathedral ·

### · Site of Chapter House ·

DETAIL PLAN OF TILE PAVING DISCOVERED IN THE DEANERY GARDEN IN THE AUTUMN OF 1920 DURING THE COURSE OF EXCAVATIONS UNDERTAKEN BY THE ST ALBANS AND HERTFORDSHIRE ARCHITECTURAL AND ARCHAEOLOGICAL SOCIETY.

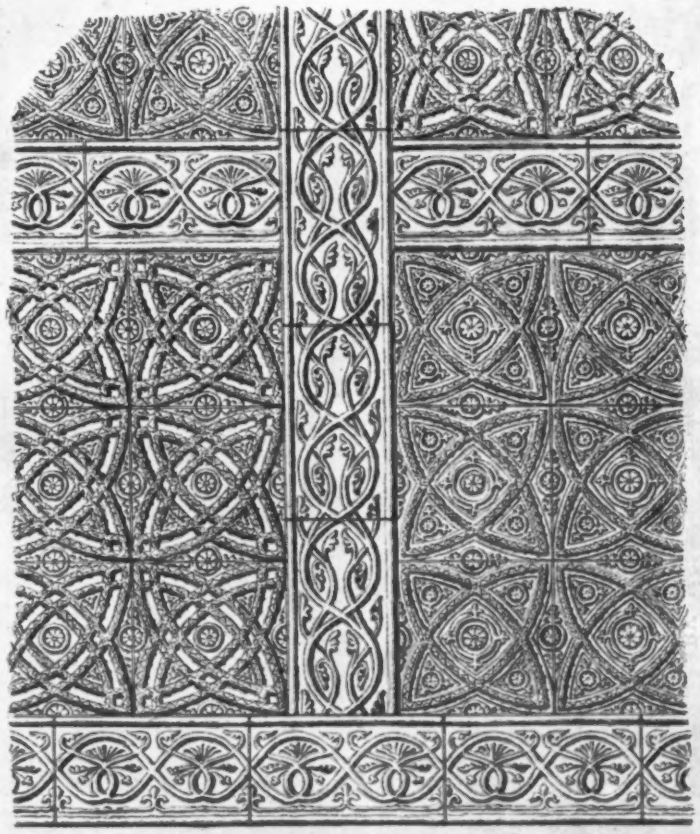


PAVING OF BODY OF CHAPTER HOUSE
DISCOVERED IN SITU
NEAR ENTRANCE FROM CLOISTER AT WESTERN END.



FOLIATED TILES
DISCOVERED IN FRAGMENTS.

ALL TILES 1¼ INCHES THICK.



SUPPOSED PAVING OF DAIS
RECONSTRUCTED FROM FRAGMENTS

SCALE OF FEET.

*Edgar Wigram. mens. et del.*

From a measured drawing by Sir Edgar Wigram, A.R.I.B.A. (*See p.* 404.)

# HISTORICAL BUILDING CONSTRUCTION.—VII: IRONWORK.

BY MARTIN S. BRIGGS.

A STUDY of the architecture of the past reveals a very sparing use of iron or of any metal on a large scale for purely constructional purposes until a century or so ago. Up to that time the only available metals for building were wrought-iron and bronze.

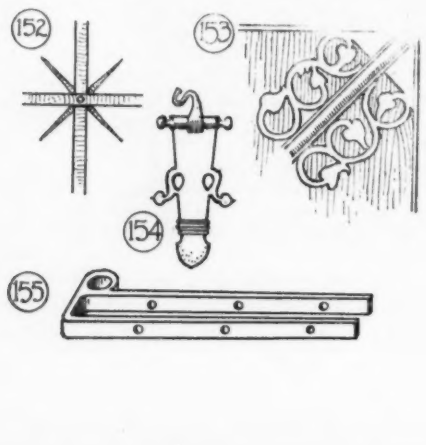
The use of bronze (an alloy of copper and tin in the proportions of about 9 to 1 through most historical periods) has preceded that of iron among all civilised peoples. But there is no definite end to the Bronze Age, common to all countries, for in Egypt iron was introduced before the Christian era, whereas in backward countries it only became known through its discovery by Western explorers. In Egypt bronze was used for carpenters' and masons' tools, as we have already noted, also for minor details in furniture and joinery, but not much for architectural purposes. Iron was introduced under the Ptolemies and the Romans, and was of slight importance in building.

But for once Egypt appears to have been preceded by Assyria, for iron was first used in Babylon in 1500—1000 B.C., and by the time of Nebuchadnezzar (6th century B.C.) had so far displaced bronze as to be used for the bolts and hangings of gates, and for the cramps of a stone bridge across the Euphrates. In the British Museum is a great iron bolt which formerly barred one of the bronze gates of Nineveh. There is no doubt that the use of iron in India and China is of the highest antiquity; in fact it may have been introduced from the Far East to Mesopotamia, and thence carried into Egypt.

Among the primitive Greeks and the Cretans bronze was largely employed in building for decorative purposes, such as the lining of the walls of the Treasury of Atreus at Mycenæ with bronze plates. In later times it was used very extensively for statues, and in a less degree in architecture. The bronze dowels and cramps for masonry have already been described and illustrated (Figs. 52 to 56). Bronze was also used for doors, or for the casing of doors. Of architectural ironwork we have no remains, but written evidence proves that the Greeks understood and practised the arts of casting, forging, welding, embossing, polishing, inlaying, and tempering iron. The Etruscans used bronze freely for wall-linings and other decorative purposes, but nothing is known of works in iron.

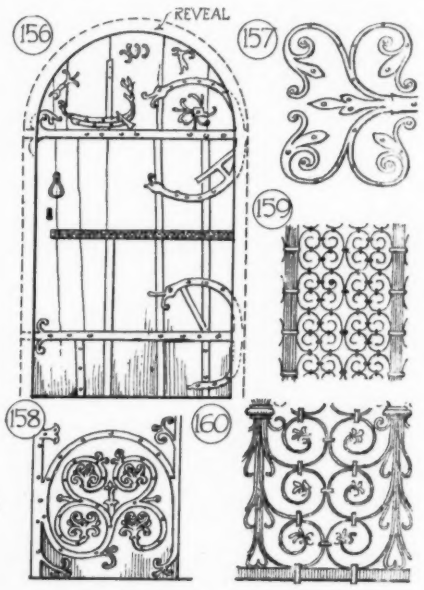
Not until we reach the Roman period do we find iron used extensively in building. Bronze was still employed for a variety of purposes, constructional as well as decorative. Thus we have already noted the metal cramps in Roman masonry, the "furniture" or fittings of doors, and actual doors of bronze or perhaps doors plated with bronze. The famous bronze doors of the Pantheon are still in existence. The same material was very largely used for statuary and for decorative metalwork in general. The great Museum at Naples contains a magnificent collection of bronzes of all types from Pompeii.

The Romans apparently used structural ironwork to an extent never reached again till the nineteenth century. At any rate, "T-iron" girders have been discovered in the Baths of Caracalla suggesting the framing of a floor,




and Professor Middleton, writing of the same building, considers that he found the recesses in the walls where the ends of great girders rested. This view is, however, discredited by Spiers, who points out that such girders must have had a span of over 70 ft., which he regards as impossible in those days without intermediate supports. Some sort of iron and tile construction, perhaps not unlike some of our "modern" fire-resisting floors, is described by Vitruvius (V, x) as a suitable ceiling for hot baths. Iron rods or arcs were spaced 2 ft. apart, suspended by iron hooks from an upper framing of timber, and between them tiles were fixed. Also, roof-trusses of bronze were used over the portico of the Pantheon and in some of the basilicas, but there is some doubt as to how far these were of solid bronze and to what extent they may have been of timber plated with bronze.

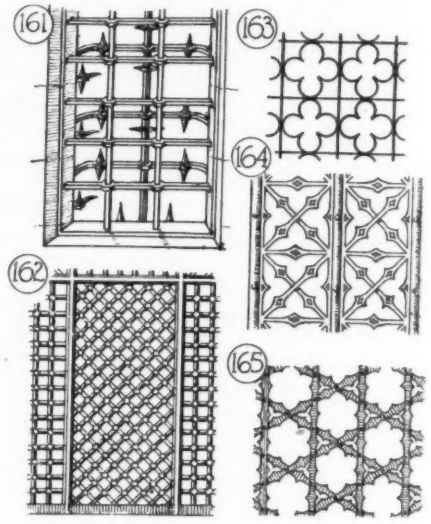
The lighter ironwork of the Romans included window-bars, the grilles or railings of amphitheatres, casement-windows, and the gates of the *fora*. Besides the more elaborate crafts-




manship found in Rome itself, there were several flourishing schools of smithing in the provinces, notably in Gaul, of which we have many remains. London itself and many other Roman provincial cities have furnished sufficient fragments to allow us to form some idea of this work. Window-grilles were provided with diagonal spikes as an additional means of protection (Fig. 152). Doors were hung on long strap-hinges with a pivot at one end (Fig. 155), the other end being sometimes plain and sometimes shaped with small scrolls. Figs. 153 and 154 show respectively a decorative clamp and a hasp from Gallo-Roman doors. The British Museum contains many similar examples, and also a restored specimen of a Roman lock showing the mode of working.

We have already noted the Byzantine use of metal collars at the ends of marble shafts (Article III) and of iron tie-bars to strengthen arches and vaults. Besides these cases, bronze was largely employed for statues, altar-fronts, doors and casings, grilles, and smaller details.

English ironwork of the Middle Ages has its origin in the Gallo-Roman school just mentioned. But Celtic metalwork was also influenced by Byzantium, and in the ninth century came the Danes, who were expert blacksmiths, however small their production of architectural ironwork may have been. Yet English ironwork was for the most part designed to repel them! Hence it is especially on the door of the church, that formed the natural refuge of each little community against these fierce pirates, that we find the blacksmith concentrating his energies. The church-door itself was very narrow, and made of one very thick plank of wood. It hung in reveals, and the scrollwork of the iron strap-hinges was so designed as to spring from the main horizontal strap at a point behind the face of the door-jamb, thus presenting additional resistance to an enemy trying to tear off the iron-work. Often the other end of the strap was




continued behind the reveal farthest from the pin on which the hinges were hung. Two or three such hinges were fixed on each door. What we know of the narrow early church-doors of the Anglo-Saxons is derived from illustrations in contemporary MSS., but the door of Stillingfleet Church (Fig. 156), though as late as *c.* 1145, shows hinges disposed in similar fashion and with serpents' heads and Viking ships as ornamental features. Internally these early doors were also strengthened with defensive plating. Some were provided with metal rims. Captured Danes were often flayed alive, and their skins nailed to the church doors. The skin covering of the door of the Chapel of the Pyx at Westminster is a souvenir of the robbers who broke into that treasury in 1303, and scarlet skins were used in later years behind iron scroll-hinges to perpetuate this cheerful custom. The heavily-armoured doors of the Anglo-Saxon churches ceased to be necessary after the Norman Conquest. They are only found in England and in Scandinavia, not in the then more civilised countries of continental Europe.

The scrollwork of these ornamental hinges was conventionally and often clumsily treated, but in late examples there is an indication of the beautiful leaf-forms that followed in the thirteenth century. The remarkable and elaborate hinges from the north door of Durham Cathedral (*c.* 1135) include one frequently-repeated form, the Greek *palmette*, that is common in French work of the period, and it would appear that they must be the work of a French smith (Fig. 157).

Other ironwork of the twelfth century comprised grilles enclosing chancels or chapels, and grilles protecting the treasuries of cathedrals or churches. The former were of light and delicate workmanship, but have nearly all perished, the only Romanesque example surviving being at Le Puy in France, and there are fragments of the St. Swithin grille (*c.* 1093) in Winchester Cathedral, of which Fig. 160, sketched from a reproduction at South Kensington, shows the type. The graceful scrolls are formed of iron $\frac{3}{8}$ in. to $\frac{7}{8}$ in. wide and $\frac{1}{2}$ in. to $\frac{1}{4}$ in. thick, strapped together with iron ties about $\frac{3}{4}$ in. wide. The heavy iron bottom-bar is 1 in. by $\frac{7}{8}$ in. Moulded collars are used on the main vertical members. Fig. 159 shows a late example from Lincoln Cathedral, where small C-shaped scrolls are strapped together and to massive iron bars forming tall vertical panels. This closely resembles the grille round the central area or

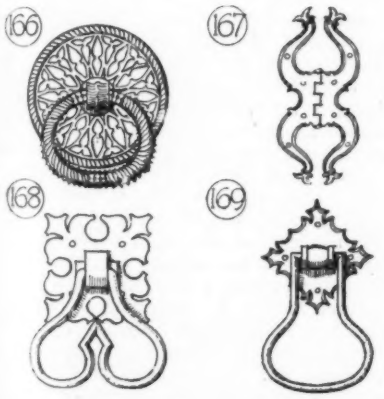
sanctuary of the Dome of the Rock at Jerusalem, erected by the Crusaders during their rule in Palestine in the twelfth century, and is probably of the same date.

At South Kensington is another screen from Chichester, of even lighter construction, with a row of tall spikes along the top.

The grilles used over the window-openings of treasuries in the large churches were of far more massive construction, and were generally double, as in the example from Canterbury illustrated in Fig. 161. The bars intersected at right angles, the vertical bars passing through eyes welded in the horizontal bars. The doors of the treasuries also were elaborately protected with heavy ironwork studded with nails, lined with plate iron, and furnished with strong bolts and locks. Up to comparatively modern times the iron industry of England had its chief seat in the Weald of Sussex, now one of the least industrial of any district in the country. England was never rich in Romanesque bronze work. The famous sanctuary-knocker at Durham Cathedral is an example. At South Kensington are good reproductions of Romanesque bronze doors from Verona, Pisa, Augsburg, and Hildesheim.

Ironwork of the thirteenth century in England was characterised by easy-flowing scrollwork with foliated ends. The idea of protecting doors by means of iron hinges was now abandoned. A form of termination frequently used in this foliated work was a stamped rosette. Fig. 158 illustrates a portion of one of the earliest examples of foliated ironwork in England—the hinges of the entrance doors of Worksop Priory. In France during this century were made the wonderful hinges of the doors of Nôtre-Dame in Paris, strongly reminiscent of Roman ornament, and of such amazing beauty and delicacy that their authorship was ascribed to the devil. Other fine examples of the period in this country are some hinges at St. George's Chapel, Windsor, and the grille of the tomb of Eleanor of Castile in Westminster Abbey. The use of memorial brasses was first introduced in this country during the thirteenth century, and soon became very general. Weather-vanes of iron were often erected on gables and spires, but as at first they were fixed and had no pointers, they can have served no practical purpose!

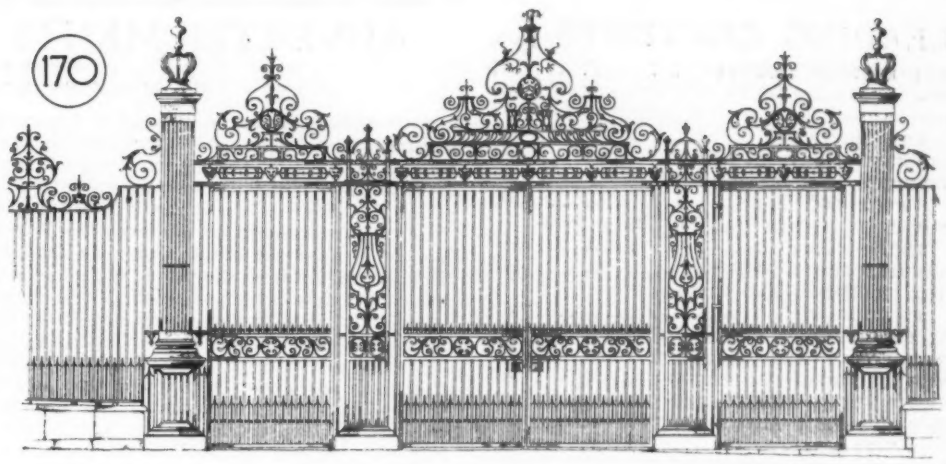
During the thirteenth century the influence of the Crusades on English ironwork was considerable. Constant intercourse with Byzantium, Palestine, and Egypt brought English knights into touch with the marvellous craftsmanship of those schools of art. A study of the Saracenic and Persian metalwork at South Kensington reveals the skill of the Mosul and Cairo artists in inlaid or "damascened" bronze, applied not only to bowls, ewers, and other vessels of extraordinary beauty, but also to such architectural features as the facings or mountings of doors. These were chased and often inlaid with




silver. A knocker usually formed part of the decorative scheme of the door. The window-openings of the mosques were filled with iron grilles, and great bronze lamps hung from the roof.*

The fourteenth century shows the results of

*I have dealt with this subject more fully in the chapter on "Metalwork" in my forthcoming book on "Saracenic Architecture," now in the press.




intercourse with the East. Geometrical patterns, beloved of the Saracens, are found in iron grilles, such as those illustrated in Figs. 164 and 165, sketched from reproductions at South Kensington. The former is divided into 6-in. squares, in which light diagonal pieces are inserted. Between the squares are vertical moulded bars, probably imitated from joiners' work. In Fig. 164 the construction is that of a light lattice with flat bars $\frac{3}{8}$ in. thick and $\frac{3}{4}$ in. to $\frac{3}{4}$ in. wide, secured together with metal pins. The lattice bars are 4 in. apart. Eastern influence is still more obvious in the grille from St. Albans (Fig. 162), which is a close imitation of the Cairo *mushrabiyyah* lattice-work described in Article VI. Here the construction is of semi-circular bars, $\frac{3}{4}$ in. wide, bolted together at every intersection with metal pins with ornamental heads. Fig. 163 shows a grille from Chichester, divided into $4\frac{1}{2}$ in. squares, each containing a quatrefoil. The ironwork of this example is only $\frac{1}{8}$ in. thick and of narrow width. The quatrefoil pattern is probably derived from Byzantine roundel glazing, as found at St. Mark's, Venice, and elsewhere.

But all through the fourteenth century there was a slight decline in English smithing, which became more pronounced in the fifteenth century, when German ironwork especially, and that of the other European countries in a less degree, far surpassed the work of our craftsmen, and continued to do so until the time of Wren. Saracenic influence was apparent in many features, such as the door-handle illustrated in Fig. 166. Another example is actually inscribed with Arabic characters. Meanwhile much graceful light ironwork is found in tomb-grilles, monumental brasses became more frequent and artistic, and heavier construction is found in the portcullises and iron-bound gates of the castles.

In Tudor times the elaborate scrollwork-hinge gave place to the plain strap-hinge for doors (illustrated in Article VI), while a new type came to be used for doors hung in panelling—the "cockspur" hinge illustrated in Fig. 167. Door-handles (Figs. 168 and 169) usually took the form of a square plate, often fixed diagonally, with a central boss from which hung a ring that also served as a knocker. Locks were most elaborately designed and constructed. Windows were fitted with casement-fasteners of charming design, to which reference will be made in Article XI of this series. All this was wrought ironwork, but from the fifteenth century onwards the Sussex smiths produced a large number of admirable fire-backs of cast-iron. These had become necessary as the fire-place against a wall had taken the place of the older fire in the middle of the room. They were at first cast on a bed of sand, and ornamental features, such as figures (for dates) and rosettes were laid on the mould, this accounting for their frequently irregular disposition. The cable-moulding of the border was formed by laying a rope round the mould. In later examples proper moulds were used for the ornamental features.

The great age of English ironwork was from *c.* 1690 to *c.* 1750. It was inaugurated by Tijou, a smith who came to England in the train of William of Orange, and executed the magnificent garden-screen, gates, and grilles at Hampton Court Palace, as well as a large quantity of other light decorative ironwork elsewhere. A feature of his work was his partiality for embossing, which appears in the many curled leaves, masks, and coats-of-arms in his designs. He set out his work, or much of it, with his own hands, and a record exists of charges made "for gluing of boards for Mr. Tijoue to draw ye Iron Screen upon," by a joiner, this for St. Paul's Cathedral. Like the architects of his day, he published a book of his own designs, but these are somewhat deficient in the practical details of craftsmanship. It is impossible, in this short article, to deal with the fine work of this period, which has been admirably described by Mr. Starkie Gardner. The one illustration given here (Fig. 170) is from my drawing of the famous gates of Carshalton Park, erected at a time when the English smiths were creating a school of their own, in which the bold freedom of Tijou's style was giving place to a more rectilinear architectural treatment. The construction of ironwork of this type was generally sound. The main horizontal bars were tenoned into the main vertical bars, and the lighter vertical bars into the main horizontal bars. The lower part of gates and railings were filled with light vertical "dog-bars," generally deeper than their width on the face and spaced about $1\frac{1}{2}$ in. apart, with light arrow-heads welded to the ordinary vertical bars. The fixed ironwork above the gates is known as the "overthrow" and was invariably the lightest and most graceful portion of the design. Locks were plain and solid, but a scrolled lock-rail is generally found. Two types of pilaster were used—the flat open-work panel, filled with a "lyre" pattern and often stiffened at the back with stout struts; and the open pier, square on plan, formed of heavy bars, and with a capital and base of moulded sheet-iron. Both these appear on Fig. 170. Where a stone base was used for the railings, the bars were caulked in. Other interesting work of the period includes balustrades (such as Tijou's work on the King's Staircase at Hampton Court), lamp-holders, and weather-vanes.

After the middle of the eighteenth century architects came to design ironwork as well as other details of the building, and flowing curves more and more gave way to straight lines, with a corresponding loss of grace and of originality. But the Adams, even when cast-iron had come into use, designed much admirable metalwork distinguished by its Greek character. A conventional honeysuckle is a characteristic of their work. The semicircular fanlights over street-doors show their external ironwork at its best; and inside their houses one often finds charming hob-grates with pierced steel fenders designed in keeping. Of the work of this later school, as of the introduction of iron as an important material of construction a century ago, lack of space forbids any treatment here.

[The illustrations accompanying this article have all been drawn by myself, but Figs. 153, 154, 156, 161 and 166 are based on plates in Starkie Gardner's "Ironwork," Vol. 1; and Figs. 167, 168 and 169 in Garner & Stratton's "Tudor Architecture."]

## LEADING CONTENTS.


| | PAGE |
|---|---|
| THE ETERNAL TRIANGLE | 399 |
| THE CHAPTER HOUSE AT ST. ALBAN'S | 404 |
| HISTORICAL BUILDING CONSTRUCTION—VII: IRONWORK | 406 |
| ADVERTISEMENTS IN PUBLIC PLACES | 408 |
| INTERIOR DECORATIONS OF THE S.S. "ATHENIA" | 409 |
| ROYAL INSTITUTE OF BRITISH ARCHITECTS | 413 |
| ARCHITECTURAL SOCIETIES | 413 |
| THE ELEMENTS AND THEORY OF ARCHITECTURE—VI | 414 |
| THE SURVEYORS' INSTITUTION | 416 |
| THE ROYAL ARCHÆOLOGICAL INSTITUTE | 416 |
| THE ARCHITECTURE OF LIVERPOOL | 417 |
| THE WEEK IN PARLIAMENT | 418 |
| THE TOWN-PLANNING INSTITUTE | 419 |
| THE BUILDING TRADE | 421 |


## ILLUSTRATIONS.

**Bank Premises.**

The architects for the new bank premises at the junction of Pall Mall and Waterloo-place, S.W., for Messrs. Cox & Co., are Messrs. E. Keynes Purchase, F.R.I.B.A., and Durward Brown.

**Steamship Offices.**

These offices are being built on the sites of 2-4, St. Mary Axe, E.C., to the design of Mr. Stanley Hamp (Messrs. Collcutt & Hamp), for Messrs. Cayzer, Irvine & Co., Ltd. The general contractors are Messrs. Trollope & Colls, Ltd., and among the sub-contractors are: The Birmingham Guild, Ltd. (art metalwork); Eastwood & Co. (bricks); Matthew T. Shaw & Aston Construction Co. (constructional steel); Luxfer Prism Co. (daylight prisms); Speedy & Eynon (electrical lighting and fittings); Siegwart Fireproof Flooring Co. (fireproof floors); A. Goslett & Co. (glazing); Matthew Hall & Co. (heating and plumbing); Burke & Co. (marble and mosaic); Dawson & Co. (partitions); G. Jackson & Sons (plasterwork and stone-carving); Roberts, Adlard & Co. (slates); Empire Stone Co. (stair-treads).

## MEETINGS.

FRIDAY, *March* 17.

*Royal Sanitary Institute.*—Discussion on "The Sanitation of Places of Entertainment." At 90, Buckingham Palace-road, S.W.1. 5.30 p.m.

SATURDAY, *March* 18.

*Architectural Association.*—Visit to Ken Wood.

MONDAY, *March* 20.

*Royal Institute of British Architects.*—Mr. H. D. Searles-Wood on "The Building Timbers of the Empire." At 9, Conduit-street, W.1. 8 p.m.

TUESDAY, *March* 21.

*Liverpool Architectural Society.*—Mr. Maurice E. Webb on "Present-Day Architectural Problems." 6 p.m.

WEDNESDAY, *March* 22.

*L.C.C. Central School of Arts and Crafts.*—Sir Banister Fletcher on "German Mediæval Architecture." At Southampton-row, W.C.1. 6 p.m.

*University College Lectures.*—Mr. Martin S. Briggs on "Historical Building Construction: Leadwork." 6.15 p.m.

*St. Paul's Ecclesiological Society.*—Mr. G. J. B. Fox on "Southwold and Blythburgh Churches." At 7, St. Andrew's-street, E.C. 8 p.m.

*Edinburgh Architectural Association.*—Annual meeting of Associate Section. At 117, George-street. 8 p.m.

THURSDAY, *March* 23.

*Concrete Institute.*—Mr. S. F. Staples on "Floating Docks." At 296, Vauxhall Bridge-road, S.W.1. 7.30 p.m.

*Chadwick Public Lectures.*—Mr. H. E. Stilgoe on "Water: Its Storage and Filtration." At 9, Conduit-street, W.1. 8 p.m.

# ADVERTISEMENTS IN PUBLIC PLACES.

BY MANNING ROBERTSON, A.R.I.B.A.

ADVERTISEMENT is now regarded as a normal feature of modern life; not only is it used as a commercial asset for trading purposes, but it is exploited by politicians, sportsmen, and competing charities; it is the breath of life to the stage, to social notorieties, and even the Church has not escaped the taint. Curiously enough, the chief sufferer from the plague of commercial posters and signs is the profession that has most consistently resisted the advertising lure. It has been suggested that the architect ought to adopt the advertising "stunts" that are now so popular elsewhere, a proposal that is not likely to meet with approval. How can the architect view existing conditions with equanimity when he sees his buildings disfigured, and his efforts to increase the amenity of a district to a large extent neutralised, by the ever-widening tyranny to which the advertiser is a slave?

To enter a harmonious housing scheme through an avenue of hideous hoardings, placed in conspicuous positions along the road or railway, and to find the houses plastered with garish enamelled sheets parading the virtues of somebody's tyres or of Dr. Gloggs' Green Globules, convinces the architect of the necessity for changing our present methods. Suppose, for example, that hoardings posted in fields along the side of the railway were forbidden: in what way would the manufacturer suffer? In their place regular spaces would be set aside for advertising purposes, and any conditions or restrictions imposed would be the same for everybody.

Now that the value of æsthetic considerations in everyday life is gradually being recognised, this, no doubt, will form a public opinion that will expect simplicity to be the governing feature of house architecture, but such an advance can hardly stop here; the trader and advertiser must be called upon to co-operate in the new ideal, and to provide their contribution towards beauty and good taste. The individual advertiser is not to blame for the present state of affairs—he has no choice; he must either enter the arena and show that he can force the public to buy certain goods, or he must adopt another means of livelihood. The sign and poster advertiser is the victim of a system which is itself produced by the apathy and lack of taste on the part of the bulk of the population. To attack the individual is as senseless as to pass a vote of censure on a man for being laid up with influenza; the examples here given must be taken merely as illustrations of the kind of thing we all (including the advertiser himself) have to tolerate.

The money wasted annually, to the detriment of town and country, by the exigencies of unbridled street advertising competition, must run into millions of pounds. The practice is only comparable with the wasteful competition in armaments, and a judicious limitation of such advertisements would not only be a godsend to the community but would probably benefit the trader as well. The architect should be called upon to incorporate panels for notices and advertisements in suitable places, and it is to be hoped that future town-planning regulations will be framed with sufficient foresight to include some such provision. Until quite recently buildings which would obviously need spaces for posters and bills, such as theatres and railway stations, were designed regardless of this requirement, and consequently the design was lost, or partly lost, behind screens and announcements posted in the most awkward and unsuitable places; in future attention should be given not only to buildings of this kind but to the whole advertising needs of a district.

While the advertiser, in an endeavour to outdo his rivals, commits many atrocities by day, his worst offences are carried out in the dark. If it is a sign of being a high-browed kill-joy to be worried by constantly-recurring and ever-varying electric signs, many of the more prosaic among us must stand condemned. When a man sells Orcuba Cigarettes let him say so—if he feels he must—in letters of fire, gas, or gold; but let him say so permanently and with conviction, and not needlessly agitate us by displaying an electric light man who, beginning at the nose, is alternately red and green, and with appalling pertinacity lights his cigarette every twenty-seven seconds from sunset till midnight. An announcement permanently set in electric light is not unpleasing, and the presumably greater advertising value of the syncopated lights must be due to their irritating effect. If dot-and-go-one lights were abolished, nobody would suffer by their disappearance.

The advertiser is a keen student of psychology; it is his business to know that an isolated reference to Dr. Gloggs is useless, that it is necessary to impregnate the public mind with his name, to make people dream of Gloggs if possible, and even in dreams to associate him automatically with Green Globules which, of course, "Dispel every Distemper." This effect is nicely calculated by the introduction of such catchwords, specially designed to fasten themselves on the brain. The new science of psycho-analysis lays stress on the suggestive power of this type of formula, and it is unfortunate that its professors cannot protect us from such misapplied energy, as we should be protected from an advertisement of razors that demonstrated their sharpness on the throats of passers-by.

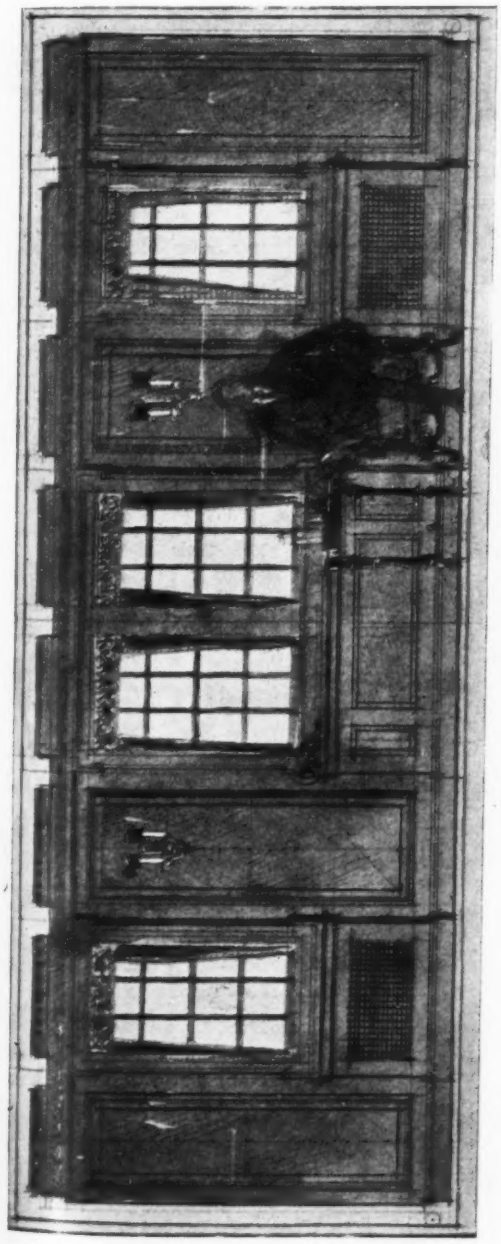
Seeing that the advertiser, or the advertising syndicate through which he works, and his rivals all understand the force of such blatant appeals and the irresistibility of novel effects, the individual can hardly, of his own accord, abandon these methods for peaceful persuasion. The ideal solution of this, as of most other difficulties, is a better-educated and an interested public opinion, one to which such vulgarity, instead of being alluring, would be repellant and, therefore, commercially ineffective; but such an ideal is far off, and in the meantime the authorities who are responsible to the community should use such moderating influence as they possess. The longer such restrictions are postponed, the harder it will be to bring them into effect, because the owners of blank walls and similar advertising spaces will tend more and more to look upon them as a commercial perquisite.

To suggest prohibitions and restrictions is to invite the reminder that England is a free country; to be free (in the sense in which the word is commonly used) is to be uncivilised, to be at the mercy of brute force and, fortunately, England is far from free; one may not obstruct the traffic nor produce nasty smells or sounds; it is apparently free in that we are at liberty to produce nasty sights, so long as they do not technically overstep the bounds of decency. Of this freedom the rival advertisers take full advantage, and there appears to be no limit to the competition in the eccentric and the bizarre. We are protected by law from personal violence, otherwise we should have our attention forcibly concentrated on Dr. Gloggs' name (on the pavement) by means of a wire periodically stretched across the footpath, a contribution to advertising science that would be recognised by the creation of Sir Gregory Gloggs.

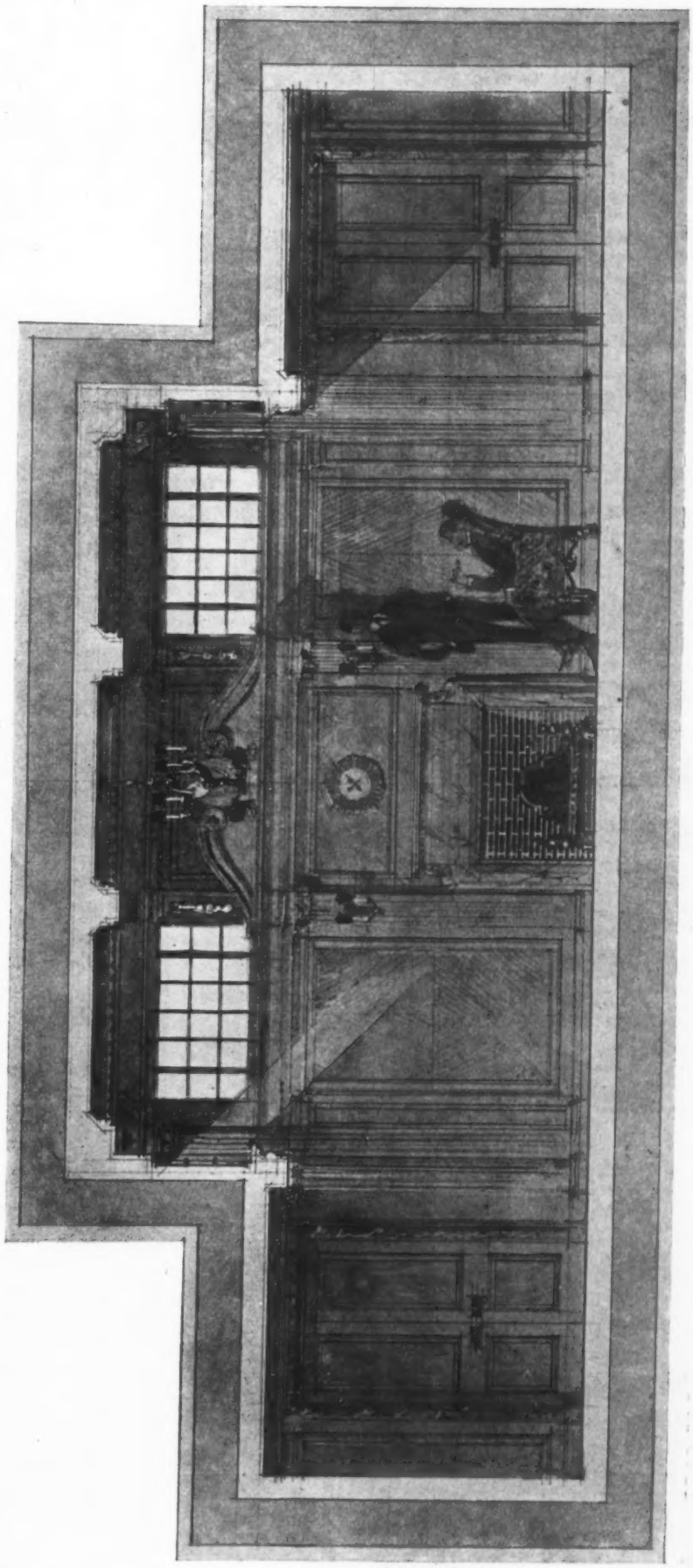
The question of whether a man should be allowed to advertise his goods at the expense of the amenity of the neighbourhood concerns everybody, but the architect most of all; he takes pains to design what he considers a good elevation, and it is not given a fair chance. Before the building has been up a year it has become merely a background to an electric light jazz-man. The apathy of the public is proverbial, amazing, but the public consists of individuals; Mr. John Citizen not only watches, unmoved and without protest, the enormities that are constantly being committed in our towns and villages, but he immediately purchases the goods of whichever advertiser has succeeded in shocking him most. Mr. J. Citizen is clearly the culprit, and the advertiser only the victim of a practice which Mr. Citizen's present attitude renders inevitable.

# INTERIOR DECORATION OF THE S.S. "ATHENIA."

These illustrations are of the interior of the s.s. *Athenia*, a new liner built for the Anchor Donaldson Line, by the Fairfield Shipbuilding and Engineering Co. The woodwork of the interior is being carried out by Messrs. Waring & Gillow, and the plasterwork by Messrs. Ben Henry Johnson & Son, of Liverpool. An interesting introduction into the plan is the nursery (*see* pp. 400, 401). The wall decoration is fretted out of thin plywood, which is then screwed to the painted wood framing. The lounge has been arranged free of columns to admit of dancing, and wide double doors have been fitted between it and the drawing-room, so that they may be used *en suite*. These illustrations with others, were used by Mr. Harold A. Dod, M.A., A.R.I.B.A., of the firm of Messrs. Willink & Thicknesse, to illustrate a paper read before the Liverpool Architectural Society, on March 7, on "The Interior Decoration of a Liner." Messrs. Willink & Thicknesse are the architects for the decoration of the s.s. *Athenia*



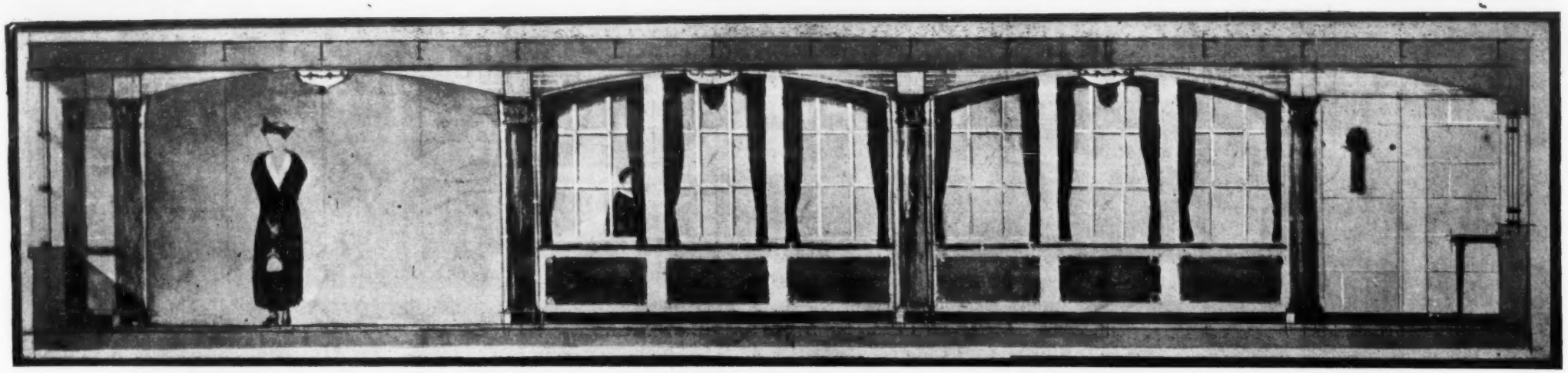
THE SMOKE ROOM.



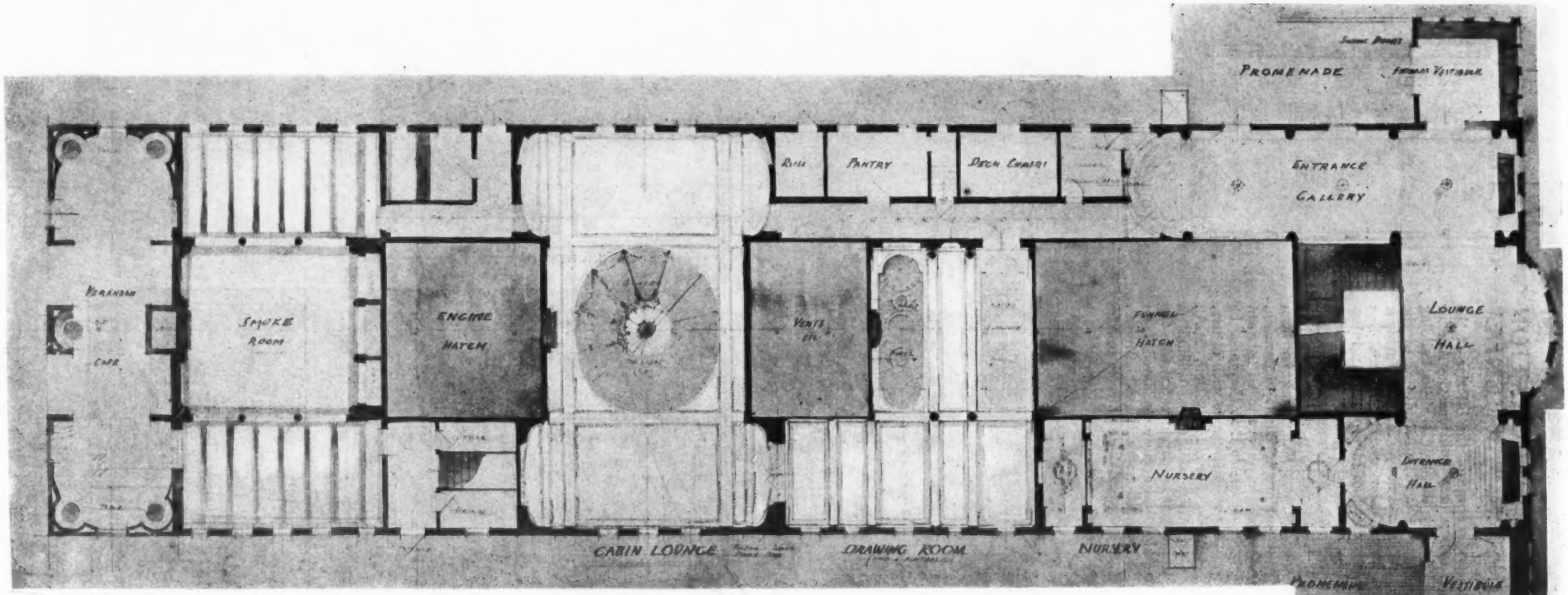
THE SMOKE ROOM.

**The S.S. "Athenia."**

MESSRS. WILLINK & THICKNESSE, Architects.

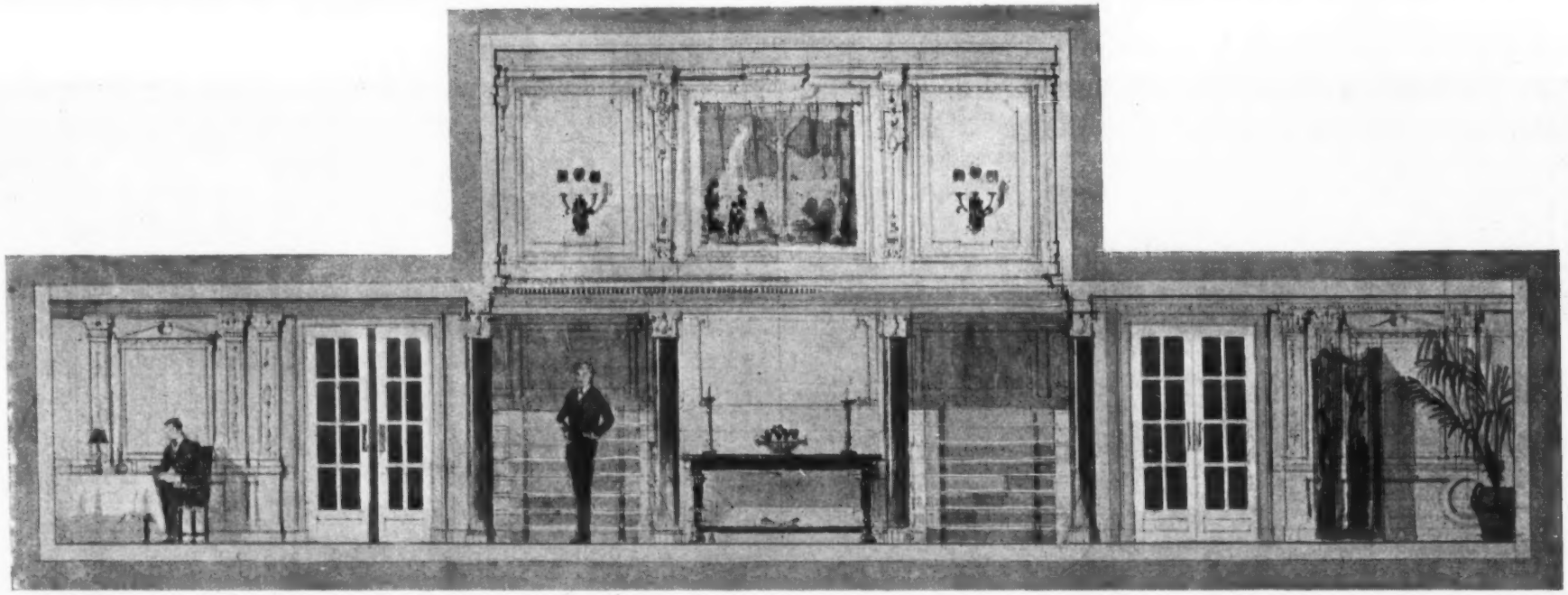


THE STAIRCASE HALL.

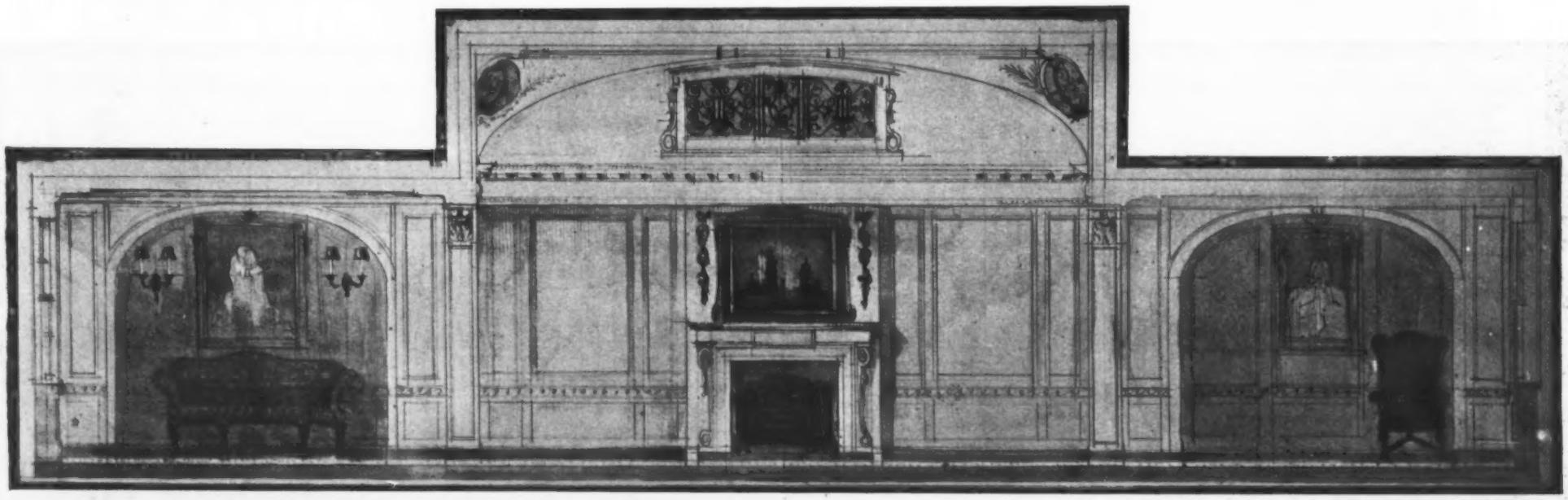



GENERAL PLAN.

**The S.S. "Athenia."** MESSRS. WILLINK & THICKNESSE, Architects. (*See p.* 409.)

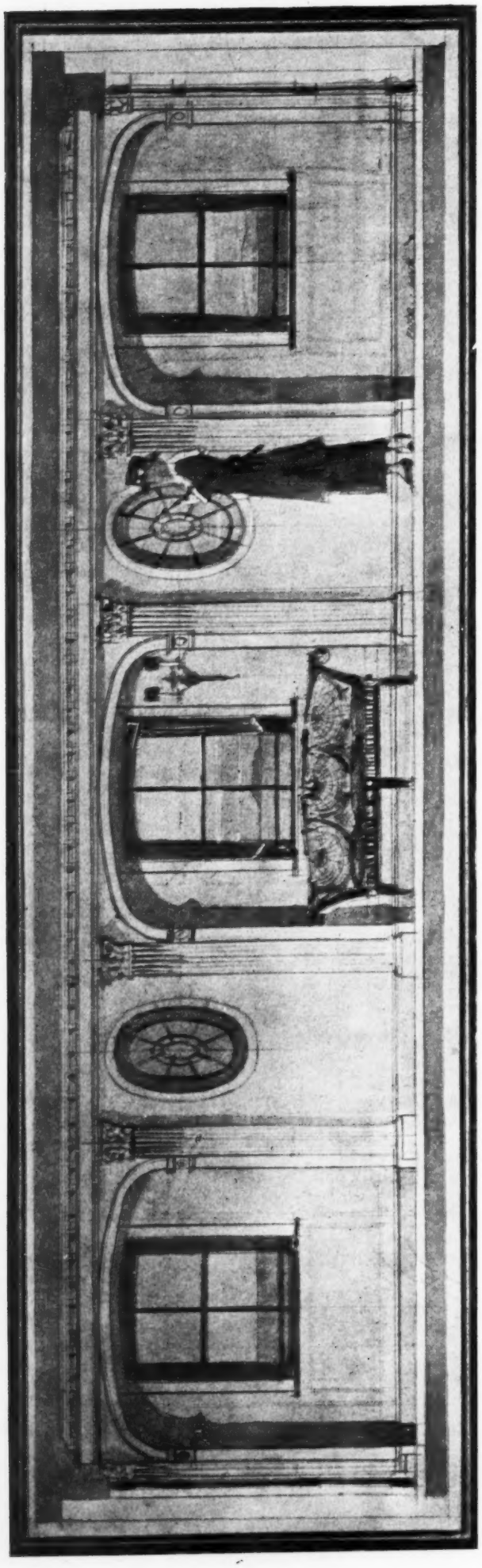


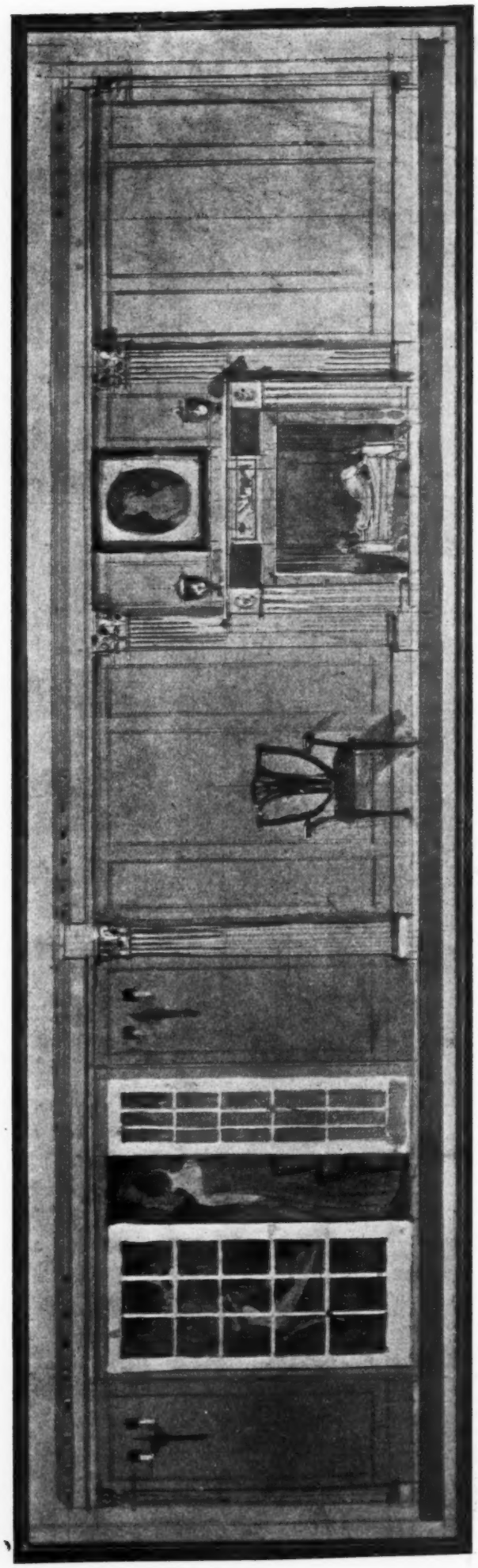
THE DINING SALOON.



THE LOUNGE.

**The S.S. "Athenia."** MESSRS. WILLINK & THICKNESSE, Architects.





THE DRAWING ROOM.

**The S.S. "Athenia."** Messrs. Willink & Thicknesse, Architects.

# ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE following notes are from the Minutes of the meeting of the Council of the Royal Institute of British Architects held on March 6 :—

UNIFICATION AND REGISTRATION.—A statement for the information of members was approved and ordered to be published in the *Journal*.

ROYAL COMMISSION ON GREATER LONDON.—On the recommendation of a Joint Committee, composed of representatives of the four Standing Committees and the Town-Planning and Housing Committees, the Council appointed four members to give evidence on behalf of the Royal Institute before the Royal Commission on Greater London.

THE BRITISH SCHOOL AT ROME.—Mr. John W. Simpson (Past President) was appointed to represent the Royal Institute for the years 1922-1924 on the Council of the British School at Rome.

THE COAL SMOKE ABATEMENT SOCIETY.—Mr. W. G. Newton was appointed to represent the R.I.B.A. on a deputation to the Minister of Health.

THE ARCHITECTURAL ASSOCIATION.—A grant of £100 was made in aid of the funds of the Architectural Association, and an instalment of £125 of the R.I.B.A.'s donation to the A.A. Endowment Fund was also voted.

THE FELLOWSHIP.—Mr. William Walcot was elected a Fellow under the provisions of By-Law 12.

THE UNIFICATION AND REGISTRATION COMMITTEE.—The following were appointed to serve on this Committee : Mr. E. P. Warren (Berks, Bucks, and Oxon Architectural Association), Mr. Alan E. Munby (York and East Yorkshire Architectural Society), Mr. E. T. Boardman (Norfolk and Norwich Architectural Association), Mr. T. Aikman Swan (Edinburgh Architectural Association), and Mr. Walter Cave.

### Laboratory Fittings.

The report of the Committee of the Chemical Society on the equipment of chemical laboratories may now be consulted at the R.I.B.A. Library. The report contains an epitome of the methods in use of forming and treating benchtops, reagent shelves, fume cupboards, sinks, and waste channels, while notes on ventilation, supply services, and floor and wall surfaces are added.

# ARCHITECTURAL SOCIETIES.

## BIRMINGHAM ARCHITECTURAL ASSOCIATION.

The last general meeting of the session of the Birmingham Architectural Association was held on March 10. The chair was occupied by Mr. Rupert Savage, F.R.I.B.A., and Mr. H. G. Wicks, A.R.I.B.A., read a paper on "The B.A.A. Excursion to Beauvais."

Mr. Wicks said Beauvais was full of quaint streets and interesting buildings. The Cathedral was the centre of attraction and rose to a great height above the surrounding buildings, dwarfing even the high towers of the Palais de Justice which stood close by. The building was incomplete and consisted of a choir, finally completed in the fourteenth century after collapsing on two occasions, transepts erected in the sixteenth century, and one bay of a nave. A tower was commenced at the crossing in 1560, but collapsed 23 years later and had not been replaced. The beautiful airy choir was the highest in Europe, rising 158 ft. from the pavement to the vault, and the transepts, erected in the sixteenth century, were extremely fine examples of the flamboyant style. The north transept was less crowded with detail than the south transept, and on that account was perhaps more pleasing. Other interesting buildings were the Church of St. Etienne, a large building with Romanesque nave and transepts and a Gothic choir, and the Palais de Justice, formerly the Bishop's Palace, built about 1500. Many old timber buildings still existed with their overhanging stories, grotesquely carved brackets, and tile fillings, and houses of a later date with shuttered windows and richly-coloured roofs.

Mr. Wicks illustrated his paper with a number of lantern slides, and there was also an exhibition of the sketches made during the excursion.

At the conclusion of the paper, a vote of thanks to the lecturer was proposed by Mr. Arthur Harrison, F.R.I.B.A., seconded by Mr. G. Salway Nicol, F.R.I.B.A., and carried unanimously.

## THE SOUTH WALES INSTITUTE OF ARCHITECTS.

### ANNUAL DINNER.

Mr. H. C. Portsmouth, President of the South Wales Institute of Architects, presided on Thursday last week at the annual dinner of the Institute at the Royal Hotel, Cardiff. In proposing the toast of the Royal Institute of British Architects, the Society of Architects, and the Allied Societies, Mr. Portsmouth spoke of the draughtsmanship which members of the profession offered the public in the middle of the last century, before the mechanical precision of the camera had ousted the limner, the engraver, and the etcher from their places. He said the South Wales Institute was on the high road of progression, and had nearly trebled its membership in the past two years, now numbering about 200.

Mr. Paul Waterhouse, in response, said that the strength of the Royal Institute lay in its vast personnel, its allied societies, and its outlying membership roll. Cardiff and the South Wales Institute were becoming integral and important factors in the recent remarkable growth of the architectural community. An important gathering of architects was to take place later in the year at Cardiff ; perhaps there would be no indiscretion in saying that the members of the architectural profession throughout the British Isles had been partly influenced in their choice of Cardiff as the venue of their meeting this year by the thought that an opportunity would thus be afforded them of seeing some of the finest modern specimens of municipal architecture disposed and displayed with a grace to which other towns might look with envy. He also paid a tribute to Professor Purchon of the Cardiff School of Architecture, and said his acquaintance with Professor Purchon on the Board of Architectural Education convinced him that Cardiff was exceedingly fortunate in securing Mr. Purchon for its School.

Mr. E. J. Sadgrove (President of the Society of Architects) and Mr. E. P. Warren (President of the Berks, Bucks, and Oxon Architectural Association) also responded. The latter, who represented the youngest of the allied societies, referred to the difficulties his society experienced, in common with the South Wales Institute of Architects, owing to the scattered nature of the towns in its area, and said it had modelled its organisation on that of the South Wales Institute.

Mr. T. Alwyn Lloyd, F.R.I.B.A., spoke optimistically of the future of the building industry in proposing the toast of the South Wales Building Trades Employers' Association, to which the President, Mr. Fred Lewis, replied.

Mr. Percy Thomas (President-elect of the South Wales Institute) and Mr. Ivor Jones (Honorary Secretary) responded to the toast of the South Wales Institute, the former referring in enthusiastic terms to the work being done at the Cardiff Architectural School.

Dr. W. Evans Hoyle, M.A. (Director of the National Museum of Wales), in proposing the toast of "The Guests," paid a compliment to the architect of the New Welsh Museum, Mr. Dunbar Smith, who was present at the dinner.

The Deputy Lord Mayor of Cardiff, in responding, said the conference at Cardiff in June was considered by the municipal authorities to be the most important civic event of the year.

Others who responded to the toast of "The Guests" were Mr. W. Gibson (President of the Cardiff Master Builders' Association) and Mr. David R. Roberts (President of the South Wales Institute of Engineers).

The guests present included Mr. A. W. Hennings (President of the Manchester Architectural Society) and Mr. F. R. Yerbury (Secretary of the Architectural Association, London).

At the annual general meeting of the Central (Cardiff) Branch of the South Wales Institute of Architects, held on March 3, the Executive Committee for the ensuing year was elected as follows :—Chairman : Mr. E. C. M. Willmott, A.R.I.B.A. ; Honorary Treasurer : Mr. H. Teather, F.R.I.B.A. ; Members : Messrs. Cecil Wilson, F.R.I.B.A., W. S. Purchon, A.R.I.B.A., J. Williamson, A.R.I.B.A., Percy Thomas, F.R.I.B.A., Ivor P. Jones, A.R.I.B.A. ; Associates' Representatives : Messrs. T. E. Llewellyn and Colin L. Jones ; Honorary Secretary : Mr. C. F. Jones, A.R.I.B.A., 13, Edwards-terrace, Cardiff.

The representatives of the Central Branch on the Council of the South Wales Institute of Architects were also elected, as follows :—Messrs. E. C. M. Willmott, C. F. Jones, A. G. Edwards, T. Alwyn Lloyd, W. S. Purchon, Cecil Wilson, J. Williamson, and C. J. Ward ; Associates' Representative : Mr. T. E Llewellyn ; Messrs. Percy Thomas, H. Teather and Ivor P. Jones (of the Central Branch) are also members of this Council as President-Elect, Honorary Treasurer, and Honorary Secretary respectively.

# THE LONDON SOCIETY.

## OPEN-AIR LIFE IN LONDON.

IN a lecture on "The Open-air Life of London," delivered before the members of the London Society on Friday last week at 18, John-street, Adelphi, Captain Lyon Thomson, F.S.A., said London differed from every other great town of the world. Around it other towns had grown up, without any past, without any corporate life, and until the last generation—when the London County Council made the first attempt to bring it into a uniform condition—in a state of confusion. Old habits and customs had changed and the charm of the streets had disappeared ; possibly the streets had not the attractions to be seen in Paris. One of the drawbacks to open-air life in London was that there were so few open spaces, and the people apparently demanded that open spaces should be thickly dotted with trees. It was difficult to combine trees and architectural decoration unless the space were very large. To put up fine architecture and smother it with trees was hardly reasonable, and the tree enthusiasts should stay their hands and not always demand that the spaces should be filled with plant life. Grosvenor-square, at one time one of the finest squares in London, as laid out by the architect had a large open space ; it was now represented by an overgrown jumble. In the past century and previously something like seventy open-air cafés existed in London, whereas to-day there was not one. The lecturer proposed that the Serpentine should be extended to Hyde Park Corner, which would give one and a quarter miles of waterway and afford a useful line of communication from Paddington to Constitution Hill, where none now existed. The scheme would not require a very large sum of money, but it would employ a considerable amount of labour, and no city could offer such an attractive spectacle. He would also like to see the pavement overlooking Trafalgar-square utilised in summer by the erection of canvas pavilions for open-air cafés. Last year the proceeds from street lettings, including cafés, in Paris, where everything was done to facilitate trade and attract strangers, amounted to 2,600,000 francs in relief of the rates.

### Maxwelltown War Memorial.

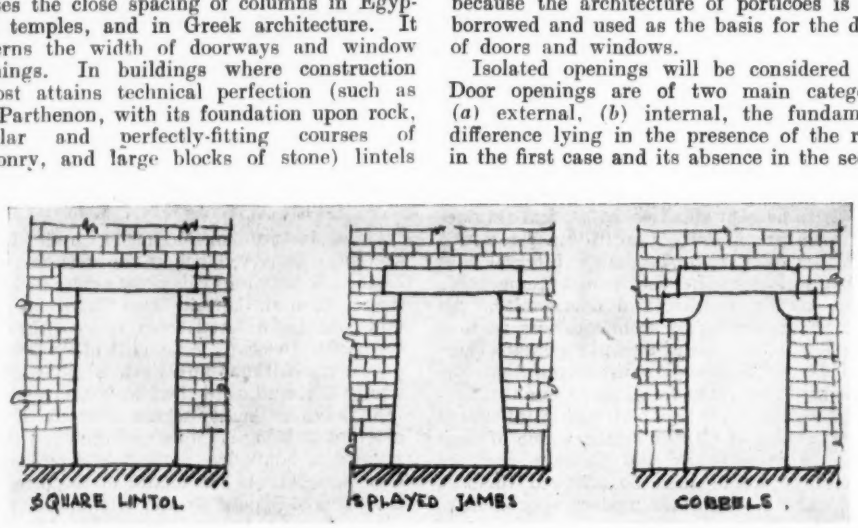
The Morris Art Foundry, of 123, Dorset-road, Clapham, S.W. 8, inform us that the Maxwelltown war memorial figure, illustrated in our last issue (of which Mr. Henry Price, R.B.S., is the sculptor), is now being cast in bronze in their foundry.

# THE ELEMENTS AND THEORY OF ARCHITECTURE.—VI.

*(BASED UPON THE FRENCH WORK OF M. GAUDET.)*

BY T. P. BENNETT, F.R.I.B.A. (*Head of the Department of Architecture, Surveying, and Building, Northern Polytechnic*).

OPENINGS IN WALLS.—The discussion upon walls up to the present has been limited to plain walls. It is now necessary to consider openings. From the point of view of use no joinery or filling is necessary. The simple hole is all that is required, and the hole in the wall is therefore the first portion of this subject. The simplest openings and the earliest in date are rectangular, with vertical sides or jambs and a horizontal lintel in one piece. At various times the lintel has been composed of wood, stone, concrete, iron or reinforced concrete. In each case it is the governing factor. Wood lintels cannot have any place in monumental architecture because of their liability to decay and destruction by fire. The stone lintel in early times was universally employed. The lintel must always be in a state of "flexure," and therefore stone is not an economical material. Its limit of span is soon reached. This limit causes the close spacing of columns in Egyptian temples, and in Greek architecture. It governs the width of doorways and window openings. In buildings where construction almost attains technical perfection (such as the Parthenon, with its foundation upon rock, regular and perfectly-fitting courses of masonry, and large blocks of stone) lintels have their largest spans, sometimes reaching 5 or 6 metres. In the Middle Ages, when craftsmanship was at a much lower level and small stones common, the lintel is used to span only small openings. In Renaissance times, especially in France, we have the platband or flat arch—a jointed lintel giving a square-headed opening and permitting its construction with comparatively small stones.




Several distinguishing features came into existence from the endeavours of architects to solve the problem of the lintel. The best known are—(1) the battered jamb in Egypt and Greece, and (2) the corbel under the lintel in Gothic work. Neither of these methods increases the width of the opening to any great extent, and both seriously interfere with the door or window placed in the opening. They serve to emphasise the enormous freedom given to architecture by the discovery of the arch, and, growing out of it, the vault. Probably it will never be possible for us to know whether the invention of the arch was the result of progressive attempts to solve the problem of larger spans, or whether it was the result of chance or the triumphant conception of a genius.

The arch has one drawback—it is not itself in stable equilibrium. In buildings with flat ceilings in dull climates it has the further disadvantage that it does not admit the maximum amount of light. For these reasons the iron or ferro-concrete lintel, making possible large spans with level soffits, tends to bring us back to trabeated architecture with its very obvious and valuable advantages. To maintain equilibrium the arch must have opposed to it (1) the thrust of other arches, or (2) the resistance of piers. In many cases these forces are available, but their influence upon design is immediately evident. Although the trained eye of the architect will probably keep him from glaring mistakes, the loads acting upon arches must be calculated in important or unusual cases; whatever the result of the calculation, it is necessary that the arch should have the appearance of stability in order that an effect of "repose" may be secured.

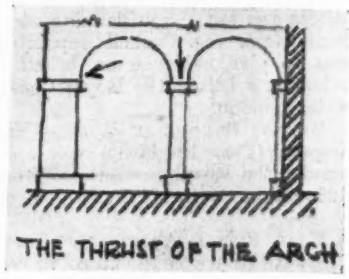
The principle of the arch once established, it has taken many forms—semicircular, segmental, elliptical, pointed, stilted, horseshoe, and flat. It should be noted that the flatter the arch the greater the thrust upon the supports. Flat arches have the greatest thrust and are most liable to displacement.

Openings in walls may be considered under two headings: (1) Isolated openings such as doors and windows; and (2) continuous openings or porticoes. It should be noted, however, that these two subdivisions cannot be regarded as independent architectural units, because the architecture of porticoes is often borrowed and used as the basis for the design of doors and windows.

Isolated openings will be considered first. Door openings are of two main categories, (*a*) external, (*b*) internal, the fundamental difference lying in the presence of the reveal in the first case and its absence in the second.

External doors may be arranged so that (1) the frame is near the external face and the leaves fold into the thickness of the wall; (2) the frame is in the centre of the wall, or (3) the frame is near the internal face and the doors open flat.

If doors are approached by means of steps they should always have a landing immediately outside. Double doors are natural at important approaches, and sometimes valuable in other positions for the moving of furniture, etc. Semicircular, segmental, or other curved heads lead to difficulties in opening doors because the door "binds" in the reveal. This may be overcome by (1) raising the arch on the side upon which the door swings—this

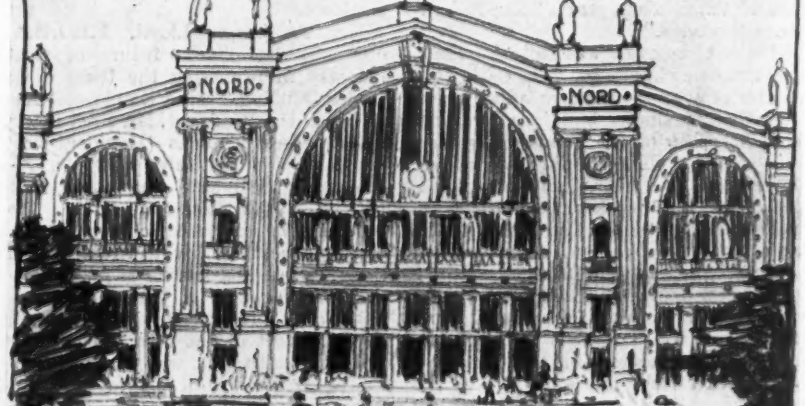



was common in Gothic work—or (2) inserting a fanlight in the opening where height allows and making the actual door square-headed. Square-headed doors are nearly always preferable to other shapes.

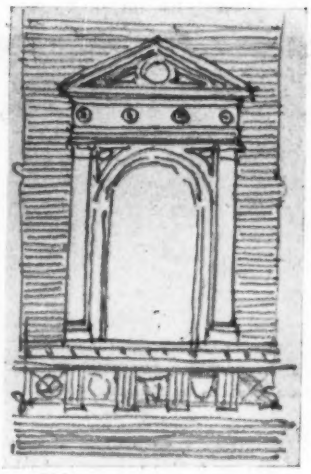
Windows, generally speaking, have openings similar to doors, the chief difference lying in the treatment of the "sill" and "apron." The sill should be (*a*) without joints, (*b*) inserted loosely and fixed after the building has settled, and (*c*) have a drip. The sill is sometimes a portion of an architectural band or string. In primitive architecture it is not uncommon to find the sill, jambs, and lintel around an opening of cut stone while the remainder of the building is in rough walling, and from this we get the prototype of the architrave.

Windows in thick walls often have the "apron" (*i.e.*, the portion below the sill) thinner, so that material is economised and facilities for looking out of the window are increased If the window is high above the floor and the wall is thick the sill should have a steep slope internally to admit the maximum amount of light. In early times window openings were the size of one light only. As the desire for light and air increased larger openings were used, subdivided by wood or metal transoms and mullions, allowing greater latitude in the design of the detail.

In certain buildings these openings become so magnified that they can no longer be classed as windows. By their great size they become the dominating element in the archi-




**The Gare du Nord.** [Great glazed spaces.]



**First Floor Window, Pal. Albergati.**
[The order used to decorate a window.] ]

tectural composition. Such openings are the great rose and traceried windows of churches, the glazed arcades of railway stations, the combined windows of certain commercial buildings. Their treatment is capable of infinite variety; the forms and details will depend upon the needs and composition of the building. These openings cannot be closed by means of a single piece of joinery; they must have stone or metal subdivisions which form the main elements in the detail of the design and support the glass.

Special problems, however, arise in their treatment, such as, for example, the means of ventilation when required, accessibility for cleaning.

The balcony is an accessory capable of adding great interest to the window opening. Balconies may be (1) limited to one window, or (2) continuous and common to several.

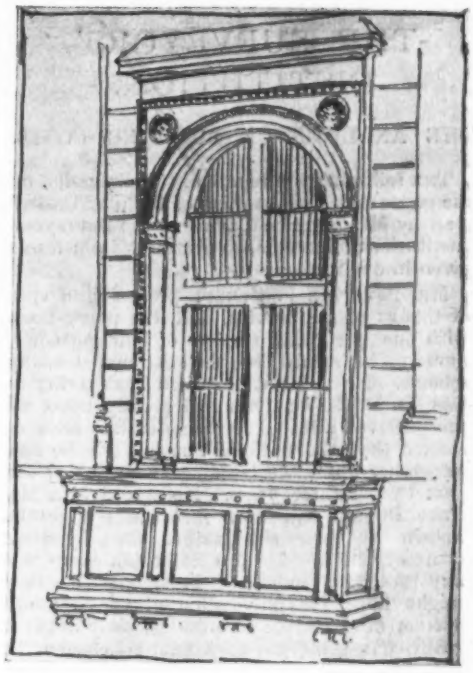
Where constructed of iron the scope of design is very wide. When treated in stone the composition is more limited, but still has many possibilities. The most usual is a treatment of balusters, round or square, carrying a capping and standing on a base or plinth. When the balustrade is long it requires the support of solid blocks or dies, and if continuous over several bays must have further strength added by means of pedestals. The balcony is supported by a thickening of the wall below or by consoles, which, if widely spaced, may have modillions between. Ornament in the shape of vases or other features is sometimes placed upon the pedestals. The daylight between the dies should be equal to the width between the reveals of the window or a little wider—it should never be smaller. The height of balustrades or balconies should be designed in accordance with the human scale and should be about one metre to the top of the capping.

The most obvious decoration which can be applied to the door or window opening is, as indicated above, the architrave. The lintel may have greater emphasis than the jambs, and this leads us to the "crosette." Rain is always the enemy of building, and as a protection a cornice may be added to the architrave. In the Temple of Vesta at Tivoli there are windows of this type. Throughout the Renaissance such windows are employed, and all will recollect examples. Rain falling on the cornice drips over the door or window, and for both the pediment becomes a legitimate means of directing it to the sides, and of adding richness. The pediment is not in this case reminiscent of the gable, but a feature designed expressly for practical purposes. Between the architrave and the cornice a frieze may be added giving a complete decoration for the opening capable of many variations. Amongst a host of examples may be quoted the doorway to the Pantheon, and the doorway to the Pazzi Chapel at Florence.

To give greater effect to the cornice it may be prolonged beyond the architrave and supported upon consoles. If to the design of this feature we bring critical examination we find: (1) The console should be sufficiently far from the face of the reveal to allow for the bearing of the lintel; (2) the console should not descend below the soffit of the lintel; if it does the lintel itself will be supported upon a small piece of unbonded stone; (3) to finish satisfactorily, the cornice must project equally beyond the front and side of the console; therefore, the side projection must be of moderate size to avoid a crushing effect from the cornice; (4) similarly, if the bed-mould to the cornice is heavy, a portion only should be carried around the console, the remainder being allowed to butt against the side; (5) connection may be established between the console and wall by the use of a vertical relief at the side of the architrave equal to the console in width. This relief, if used, must always be narrower and less important than the architrave, and must not make the proportion of the window decoration unpleasantly wide. The doorway to the Massimi Palace is a famous example of this treatment, and the music pavilion at the Grand Trianon another.

Doors and windows may also be decorated by means of pilasters or columns crowned with an entablature, making a sort of small porch around the opening. This decoration is, however, merely a minor application of the "order" and need not be further mentioned here except to quote as examples the windows of the Farnese Palace, the Palazzo Albergati, and the doorway to the Cancellaria at Rome. The combined use of the architrave and the order can be used to produce great richness.

We come now to the study of arched openings, and notice in this as in all other features that the constructional elements provide the soundest and most satisfactory field for enrichment. We have the key, the voussoirs and the impost. The ancient arched opening at Falères is emphasised by a label mould around the arch at the centre of which is a



**Window, Pal. Cancellaria. Rome.**
[Architrave, frieze, cornice, arched opening and balcony.]

head; the imposts are marked by a simple moulding. The voussoirs are large stones, the full depth of the arch—simple decoration admirably applied. The general lines of the treatment of the well-known Arch of Augustus at Perugia are similar except that the arch is in two rings and the spandrils are emphasised instead of the crown of the arch. A rich example and one in which carving does not obscure the obstruction is the Fontain de Trevi at Rome. Archivolts or arch-rings which project slightly in front of one another add to the decoration of the arch if they do not cause it to lose its character of unity.

In Byzantine architecture the system of decoration by projection produces the arch in "orders." Such is the character of the Porch of St. Trophîme at Arles. The number of projections in the reveals corresponded in many cases to the number of arch-rings, and richness was added by further ornamenting the reveal with a series of small columns or shafts. Without some explanation this hollowing out of the arch appears to be unnecessarily costly and wasteful. It was probably the result of (1) the need for economy in centering, only light centering being required for the first small ring, the remainder of the rings being built upon each other; (2) the formation of a shelter or porch; (3) architectural effect.

These porches coincide with the development of Gothic architecture, when with increasing knowledge of the theory of construction supports became more and more slender. Greater experience almost enabled the Gothic builder to overcome the laws of construction. The limitations of materials were lightly regarded instead of being treated with respect, as in the days of the Greeks and Romans.

In the Renaissance period the treatment of doors and windows is often borrowed from the portico, as, for example, the doorway to the Palazzo Sciarra, Rome, and the doorway of the Chateau at Econen, by Jean Bullant. Arched windows with architrave and cornice have great interest, as at the Pal. Cancellaria.

The arch without mouldings but with strongly-marked joints gives an effect of strength to a ground story, and richness may be added by using carved keystones and moulded imposts.

There are many varieties of windows, such as bulls'-eyes, which cannot be treated because of lack of space, and others, like dormers, which will be dealt with when referring to roofs. There is much to be studied in this subject.

# THE SURVEYORS' INSTITUTION.

## THE ANALYSIS OF BUILDING COSTS.

THE following is a report of the discussion on the paper on "The Analysis of Building Costs," read by Mr. B. Price Davies at the Surveyors' Institution on March 6, an abstract of which was given in our last issue :—

MR. PERCIVAL F. GLEED, proposing a vote of thanks to Mr. Davies, said the paper dealt with one particular section of building costs, namely, in regard to the national housing scheme. He was not surprised that owing to this Mr. Davies' analysis had greatly upset all preconceived ideas of building costs. He considered that the national housing scheme had altogether upset the building trade during the past two or three years. He agreed with Mr. Price Davies' suggestion that slates might be known by their sizes rather than by their courtesy titles. He did not think there was any breach of confidence in saying that they might hope for publication of the standard system of quantities at quite an early date; it really was being got to a final conclusion, he believed. But he did not think they must assume that once the document was produced all surveyors were going or were even intending slavishly to follow everything that was there. It was there for the purpose of record, but it was not there so that they should not use their individual brains. He was of opinion that wages need never have been reduced at the present day or for a long time to come had production not been so greatly curtailed, and that labour had lost a great opportunity by their general behaviour in this matter. One of the lost opportunities was in the great stoppage that had been experienced in the past six months in the building trade generally. One of Mr. Price Davies' analyses showed what a very big proportion labour had to the total expenditure of £1,000.

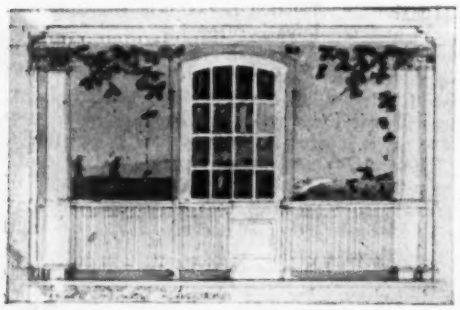
MR. ALAN PAULL, in seconding the vote of thanks, remarked that among the various matters that affected costs Mr. Davies put administration. With that he entirely agreed, because, after all, administration in a builder's office had a great deal to do with the ultimate cost of the job. Mr. Davies mentioned that in two of the cases he had referred to the prices were inaccurately priced. In estimating a builder did not always uniformly put the same percentage of profit on every item in his bills. It all depended on the clerk of works he was dealing with, and he had known cases where the carpenters' and joiners' bill had been priced absolutely net, but the profit the builder anticipated to get from carpenter and joiner work was added to his price in the earlier part of the bills. The result of that was that when one considered the bill one saw that the prices for brickwork and so on were high, and those for the carpenter and joiner were very low, but the result to the builder was that in the earlier part of the job he got more money out of the building owner than he was really entitled to for the true value of the work. Therefore, he (Mr. Paull) never took the line that the bill was inaccurately priced; he felt sure that in most cases there was some reason for the curious fluctuation in prices, and it was their work to find out how that lay. His experience in ascertaining cost was 50 per cent. for labour and 50 per cent. for materials. It worked out in Mr. Davies' analyses that labour was 45 per cent. of the whole.

MR. GEORGE STEPHENSON said the influence of building costs to-day was very different from what it was likely to be in the future, and certainly rather different from what it had been in the past. The situation of a site had a lot to do with building costs; with some sites, situated a considerable distance from a railway station, carting and haulage might be a tremendous cost.

MR. FRANK HUNT said since the war the output of labour had not been anything like what it was in pre-war days. His experience was indicative of a wider field. He had under his control a staff of now probably 200 workmen engaged on ordinary maintenance repair, and in the painting side of the staff it was noted that on their return from war service the checks taken showed that men were taking to do the same piece of work something like twice as long as they took in pre-war days. They had gradually got back the rate of output to what it was in pre-war days.

MR. A. H. DAVIS said they had to dispel the idea from the mind of the workman that the sooner he did a job the less employment there would be.

MR. T. G. BOCKING, in a written communication, said there was no doubt that a return to pre-war energy would substantially reduce costs. Anything which would tend to remove the uncertainty as to the normal post-war prices would be most difficult, but at the same time would tend to stabilise industry.



**S.S. "Athenia": The Nursery.**
MESSRS. WILLINK & THICKNESSE, Architects.
(*See p.* 409.)

## NOTES FROM THE MINUTES.

The following notes are from the minutes of the last meeting of the Surveyors' Institution :—

BURDENS ON LAND.—The memorandum dealing with the effect of the heavy burdens now falling upon both urban and rural land, which has been prepared by the Council, has been forwarded to the Chancellor of the Exchequer, the Minister of Agriculture, and other members of the Government concerned in this subject.

CROWN AND GOVERNMENT PROPERTY.—The Council has now completed the statement of the evidence to be placed on behalf of the Institution before the Departmental Committee on Crown and Government Property. Mr. C. Gerald Eve has been nominated to represent the Institution as witness.

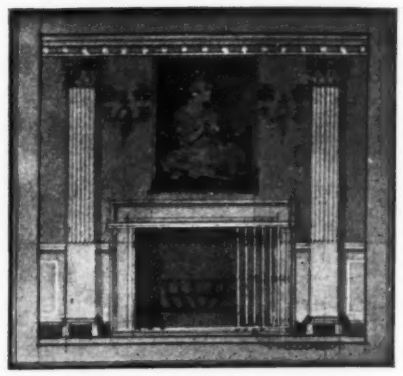
PROBATIONERS.—After the present year all candidates who pass the Intermediate Examination will be automatically enrolled as Probationers.

EXAMINATIONS.—After the present year the examinations for candidates practising in Ireland will be reorganised, further papers covering Irish law and practice taking the place of some which, up to the present, were common to the examination in both countries.

CONFERENCE OF COUNTY BRANCHES.—The annual conference between the Council and the Chairmen and Honorary Secretaries of the County Branches will be held at 11.30 p.m. on April 3.

### Brazilian Centenary Exhibition.

The Department of Overseas Trade (Development and Intelligence) (35, Old Queen-street, S.W 1) has issued a prospectus for the British section at the forthcoming International Exhibition at Rio de Janeiro in celebration of the centenary of Brazilian independence. The Department of Overseas Trade has arranged for special exhibits by means of models and transparencies, in conjunction with single samples. A model exhibition on these lines has been constructed in the Exhibitions and Fairs Division of the Department, and is open to inspection.



**S.S. "Athenia": Fireplace in Nursery.**
MESSRS. WILLINK & THICKNESSE, Architects.
(*See p.* 409.)

# THE ROYAL ARCHÆOLOGICAL INSTITUTE.

## ICKENHAM CHURCH.

A MEETING of the Royal Archæological Institute was held in the apartments of the Society of Antiquaries, Burlington House, Piccadilly, on Wednesday last week, when a paper on Ickenham Church was read jointly by Mr. W. A. Forsyth, F.R.I.B.A., and Mr. P. M. Johnston, F.S.A., F.R.I.B.A.

The paper stated that there was a great deal of architectural and historical interest attaching to the villages bordering on the Metropolis. Northolt Church was a charming example of early geometrical work of the late thirteenth or early fourteenth century. Ruislip Church, restored somewhere in the 'seventies of last century by the late Sir Gilbert Scott, contained some fine timbers. Ickenham, about fourteen miles from London, was an old-world Middlesex village—having its own pump, its own pond, and many other landmarks—in which was situated St. Giles' Church. It was a simple and very graceful little structure of mediæval times. The main characteristic of the church was its small size and consistently small scale, and it was typical, to a great extent, of the little churches of Middlesex, built at a time when much larger edifices were being erected in other parts of the country; it was probably meant to fulfil essential local purposes. During the past eighteen months the church had undergone repair under the direction of Mr. Forsyth. The original timber building, a supposed survival of Saxon times, was rebuilt about 1340 by John Shoreditch, from whom Shoreditch in London took its name. The church had again been rebuilt at a much later period. The sealed mortuary at the west end, measuring about 14 ft. square, which had been pierced and thirteen coffins removed, probably dated from 1538; windows had been put in recently and it was now used as a vestry. In that chamber was remarkable niche-work, coated with stucco in Jacobean ornament in slight relief. Swakeley's aisle, of which there was no historical explanation for the curious broadening, was built in 1636; to open it up the organ had been removed to the west end. The chancel seemed to be of somewhat later date. With the exception of those of the fifteenth and sixteenth centuries, there were probably no aisles until the restoration by Sir Gilbert Scott during last century. The timber tower was of small dimensions, regulated by the possibilities of the timber, and it was similar to others in the district, except that the posts were carried right down to the ground floor. The base had now been covered with ragged elm boarding, being most in keeping with the rest of the structure. The font was about 1830, and the brasses were also of late date. In 1866 the interior of the church had been refaced with black chalk flints, which had now been plastered over to give a lighter appearance to the building.

# THE ARCHITECTURE OF LIVERPOOL.*

PROFESSOR REILLY can hardly have given any better lesson to architectural students than that which he has given to the world at large in re-publishing in book form the series of articles on "Some Liverpool Streets and Buildings in 1921." This little book meets just that side of architecture which is usually considered a no-man's land, an unbridgable gulf between architect and client. He does for us exactly what John Ruskin failed to do, and treats of ordinary street architecture in a fashion at once readable by architects and by the public. The book is without illustrations, and from the point of view of the general public might well be improved by a series of photographs of the places described, but the witty and lucid descriptions do not stand in need of any pictorial help for those conversant with Liverpool streets, and the book is eminently readable by anyone acquainted with the character of modern English architecture. Among the inhabitants of Liverpool the advice and information is bearing fruit, and several of the author's suggestions have already passed from theory into the concrete world of practice.

Good architecture is no trifling matter, but good architecture may be robbed of its character by trifles, and Professor Reilly has done useful work in pointing out how those trifles perform their destroying functions and how things may be set right at small expense if the knowledge be there to direct operations. In several places throughout the book attention is called to the unpleasant habit of building owners and tenants of substituting great panes of plate-glass for the crown glass panes and sash bars that give such an excellent sense of scale to many buildings of simple character. Even when not removed, inappropriate treatment with paint of unsuitable tone may ruin the effect. Speaking of the beautiful buildings of Rodney-street, largely inhabited by doctors, the author remarks: "It behoves the medical profession to consider very carefully before they touch these fronts. Many of them have taken out the bars of their sash windows, turning thereby a broken surface into a large black hole out of scale with the front. Some have even done it to half a house, which is worse. I do not understand the theory under which this is done. No man's head, however swollen by professional success, is bigger than 14 inches by 18 inches, which is about the average and usual size of the old panes. Such panes are perfectly feasible, therefore, for looking through, and the old crown blown glass was clearer than any modern plate glass if you stood near enough to it. Its slight curves only deflect objects from a distance, but on the other hand they catch the sunlight in various directions and light up the façade in a way dull pieces of plate glass can never do." Frames and bars under most ordinary circumstances should be painted white or cream to prevent the dark coloured glass from merging drearily into the surrounding expanse of dark brickwork. "Balconies," he says, "as often done in London, might also be painted white so that the tracery of their patterns could be better seen against the brickwork. These balconies should be filled with flowers in summertime."

Modern additions to old buildings need very careful handling. "Some tenants," says Professor Reilly, "have obviously tried their best to preserve and enhance them, some . . . have even tried a little too hard. They have added new doors, new fanlights, and new porches. Now, the doors and fanlights are in both cases excellent, but the stone porches are a little too sophisticated. The modern designer could not be content with the simple post and lintel arrangement of the older doorways. He had to show his skill in bending a pediment, and, in so far as he succeeded, he failed. There is a long balcony, too, to the first of these houses, which is even more delicate than the best of the beautiful oval ones in the street. but it goes too far in delicacy. It is like lace on an overcoat." Anyone, whether professional or layman, comparing the old houses where the consistent style is retained with those embodying these modern improvements, will learn a secret of good taste, and it is to Professor Reilly's credit that he teaches these things fitly and simply and without ascending to the clouds.

The chapter on Liverpool's civic centre contrasts the splendid St. George's Hall with its melancholy surroundings, the fine sense of design in the last generation with the appalling ineptitude of this, which sometimes cannot carry out a few formal flower beds and a length of railing without blundering in every particular: "Cockerell obviously kept all the lamps on it [the plateau about the hall] low to enhance the height of the hall. We, in our generation, have added four tall electric light standards. The commonness of their design does not matter so much as their height, though it is instructive from the point of view of the deterioration of the race to compare their bases with those of the gas standards. . . I noticed the arc lamps have been removed, so possibly besides being detrimental architecturally the standards are redundant from a lighting point of view as well."

Dealing with the question of lettering on buildings, a subject which most certainly needs regulation, Professor Reilly says, "Think of the poor architects drawing out their mouldings full size and spending thought and feeling on whether a fillet should be half or a quarter of an inch thick, and then returning in a year or two to find it did not matter whether there were any mouldings at all." Large commercial announcements are not necessarily incompatible with good architecture, but inscription and architecture must be designed to go together.

The introductory chapter upon character in modern architecture surveys the state of the principal architectural styles at the present day, the tendency being towards an international blending of manner diversified by an occasional individual note.

The place of the school in reviving the idea of architecture treated as a consistent whole is also touched upon, the work of the great American firm of McKim, Mead & White, of New York, being cited as an example of the value of training in a consistent tradition. McKim and White are long since dead, but the group of artists, numbering by now several hundred, carry on the work with equal success. It cannot, of course, be expected that a critic should praise all the varied styles of British architecture upon an equal footing. Certain types of modern work, including parti-coloured terra-cotta, have not appealed to Professor Reilly so much as the less exuberant works in stone and plaster, but making just allowance for this personal preference the book contains much sound guidance on important matters of style, material, and colour, which must be known both by architects and by their clients if we are ever again to practice the art in a united and consistent fashion. We look forward to seeing an edition of the book with photographic illustrations, which would increase its usefulness, but in the meantime recommend the present volume to every reader.

* SOME LIVERPOOL STREETS AND BUILDINGS IN 1921. By C. H. REILLY, O.B.E., M.A., F.R.I.B.A. (Roscoe Professor of Architecture University of Liverpool). (Liverpool: *The Liverpool Daily Post and Mercury.*) Price 3s. 6d. net.

**Paisley War Memorial Competition.**
[Design submitted by MR. T. ALWYN LLOYD, F.R.I.B.A., and MR. J. R. HALLAM.]

## BOOK REVIEW.

*Architectural Office Administration.* By FRANCIS LORNE, A.R.I.B.A. (London: Technical Journals, Ltd.) Price 5s. 3d. net.

Mr. Lorne is well qualified to write on this subject, as he has had a varied experience in architectural offices on both sides of the Atlantic. Architects as a rule do not take kindly to methods of routine, so it is all the more necessary that a pattern should be held up to them in the matter of office management. Of course, knowledge alone will not carry the architect very far, and to institute a business system needs will and driving power, for without determination to carry the system through in all its logical detail the very excellent forms designed by Mr. Lorne for the simplification of office routine would become a mere dead weight of waste paper. There is no question that the information concerning all the points dealt with by Mr. Lorne must be collected and recorded in some fashion or other if the business is to be run on lines of scientific economy, and it would be hard to find a more lucid and convenient method than that proposed in the pages of this little book.

## BOOKS RECEIVED.

PAINTING TROUBLES AND THEIR REMEDY. By Andrew Millar. (London: The Trade Papers Publishing Co., Ltd.) Price 4s.

CONVERTING A BUSINESS INTO A PRIVATE COMPANY. By Herbert W. Jordan. (London: Jordan & Sons, Ltd.) Price 1s. net.

ELEMENTARY SCIENCE. By A. Herring-Shaw and G. S. Coleman. (London: Gurney & Jackson). Price 10s. 6d. net.

CONCRETE AND REINFORCED CONCRETE. By W. Noble Twelvetrees. (London: Sir Isaac Pitman & Sons, Ltd.) Price 3s. net.

REAL MATHEMATICS. By Ernest G. Beck. (London: Henry Frowde and Hodder & Stoughton.) Price 15s. net.

MOUCHEL-HENNIBIQUE FERRO-CONCRETE. Fourth Edition. (London: L. G. Mouchel & Partners, Ltd.) Price 21s. net.

# THE WEEK IN PARLIAMENT.

*Westminster*, WEDNESDAY.

### Sale of State Houses.

Mr. T. Thomson asked whether the Government had considered the hardship which would be inflicted on thousands of ex-Service men if the unrestricted sale of houses built by local authorities under the Government's housing schemes was permitted, seeing that the tenants of these houses did not enjoy the protection of the Rent Restriction Acts with regard to security of tenure and consequently they could be evicted when a change of ownership took place; and, in these circumstances, would he see that before any sales were authorised the rights of existing tenants to continued occupancy at rents not exceeding present scales were guaranteed.

Sir A. Mond, Minister of Health, replied that in considering what further steps were practicable for encouraging the sale of houses the fullest consideration would, of course, be given to the position of existing tenants.

### Rent Restriction Acts.

Replying to Sir John Butcher, Sir A. Mond said his attention had been called to certain difficulties which had arisen under the Rent Restriction Act. The matter was receiving consideration, but he could not at present make any statement on the subject. The Act expired in June, 1923, and the question of its continuance or otherwise had not yet arisen.

### State Intervention.

Mr. T. Thomson asked whether, in order that there should not be a single house the less built under the Government's revised rules for carrying out the housing schemes of 1919, the Government would now authorise the Minister of Health to sanction the erection of more than the 176,000 houses already promised, in order that all the available labour and materials might be fully employed on house building?

Sir A. Mond said that in view of the large programme of housing still to be completed and the continued reduction in prices, he hoped that further State intervention in any form would not be required and that the building industry would return to its pre-war economic basis.

### House Tender Prices.

Sir A. Mond informed Mr. T. Thomson that the lowest tender prices for two- and three-bedroom houses had been £433 for the former in December and £425 for the latter in February.

### Government Housing Policy.

On a Vote on Account of £148,300,000 for the Civil Services and Revenue Departments (£9,000,000 referring to the Ministry of Health), Mr. Clynes moved a reduction of £100 in respect of the Health Ministry Vote with regard to housing. He criticised the Government's housing policy in detail, and invited the Minister of Health to justify the Prime Minister's claim that that policy was to be placed on a more efficient and business-like footing, and that the change which had been made would prove to the advantage of the building trade by providing increased employment. From the figures officially given the reverse appeared to be the case.

Mr. Inskip said the housing policy should have the front place of all administrative questions. The housing problem was at the root of many social problems—vice, poverty, sedition, and suffering f llowed from lack of houses.

Mr. T. Thomson said the country would view with alarm the cutting down of the housing programme. The Geddes Committee's suggestion that the Government should sell the houses was not a financial proposition.

After a number of other members, including Lady Astor, had joined in the criticisms of the Government, Sir A. Mond said more houses were being financed than there were houses authorised to be built. No local authority was stopped from building houses to-day from financial considerations under the Government subsidy scheme. He defied anybody to find a statement that the Government said that it would, regardless of expense and national finance, build 500,000 houses. Many local authorities and medical officers sent in estimates of their shortage of houses, but he did not think a single local authority would stand by them to-day. He had concluded, after investigation, that there was no real basis for the statistics put forward. They were exaggerated by the fact that a great many people came back from the war and wanted to get married, and this greatly increased the demand for houses at that time. A large number of people had not got married because they could not afford to get married. The last census showed that in normal times there were 430,000 empty houses of a working-class kind. Those houses had now been filled with tenants, and that fact had never been taken into account in any of the statistics he had seen put forward. But there certainly was a need for houses. Had he been in charge of the housing scheme earlier he would have taken note of the industrial districts where the need was greatest and rationed the houses so as to deal with the serious condition which existed in many districts. The position now was that the average tender cost of £1,100 per house—the estimated amount in July last, carefully compiled for the Geddes Committee—still stood. Considerable reductions in cost had been made since last July, but the bulk of the commitments in respect of the 176,000 State houses had been entered into before that date and recent low tenders applied to only a comparatively few houses. The fall in cost had affected to some extent some of the old contracts, but it would be unwise to budget for a greater saving over all than about £4,000,000, reducing the all-in cost of the 176,000 houses to £190,000,000. The scheme would cost the taxpayers about £10,000,000 a year for some time to come. The Ministry, in arriving at this figure, had taken an average net rent of £16 a year. One of the reasons why the Government could not do more was the over-stimulation which took place at the beginning of the scheme. The urgent demand forced prices up by at least 50 per cent. Prices had come down because the Government had stopped buying houses. Builders' profits, wages, and materials had been reduced because the Government was not in the market for unlimited houses and did not propose to re-enter it for unlimited houses. The Government was going on with the 176,000 houses, but as to future policy he could say nothing. It had been said that private enterprise was not ready to come in, but that was not his information. He had had letters from builders and from organisations of private builders stating that if the Government would only get rid of the subsidy they would be able to give thei support. He was convinced that with a little patience they could induce private enterprise to come in again.

Dealing with the question of slums, he said that local authorities should use their powers for the repair of individual houses. The reports of the Medical Officers of Health for 1920 showed that 1,500 local authorities had been working on schemes; and of 6,600,000 houses of all classes, over 1,000,000 were inspected, 271,000 were found unfit for human habitation, and 180,000 were made fit for human habitation. In addition, 30,000 notices were served under Section 28 of the Housing Act of 1919, resulting in 19,000 houses being repaired by owners and 801 by local authorities. In 425 cases closing orders became operative. Notices requiring repairs to be done were served to the number of 254,000, and these notices resulted in the repair of 218,000 houses by owners and 1,900 by local authorities. Those figures showed that a great deal could be done. Surely it was a rational and safe line to proceed on, when the Government was notoriously hard up for money. He was very anxious that the slums should be removed, and was certain that without spending enormous sums a great deal of good work could be done.

As to the sale of houses, the local authorities could, under certain restrictions contained in the Housing Act of 1919, sell their houses. Those restrictions would have to be removed by Statute before the Act became inoperative. Experts were not at all sanguine that this was the moment to sell houses.

In the discussion which followed, Lieut.-Col. Fremantle (Chairman of the London County Council Housing Committee) said the bedrock of our housing system must be the system as it was before the war—private enterprise, but helped where necessary by the local authorities. It must be recognised that the speculative builder was the only builder who would supply houses in advance of the demand. What was wanted was that the private builders themselves should come forward and say what they would do, and what was required to help them and to give them security and confidence so that they might build.

Ultimately the motion for the resolution was rejected by 156 votes to 52, and the Vote was agreed to.

### The Imperial War Museum.

Sir John Gilmour informed Sir H. Brittain that it was not proposed to acquire or erect a building for the Imperial War Museum now housed at the Crystal Palace, the lease of which terminated in April, 1924. The Office of Works, however, had been inquiring into the possibility of housing the Museum in space shortly to be vacated by the Science Museum and in a portion of the Galleries of the Imperial Institute.

### Queen Victoria Memorial.

Sir W. Davison asked when the alterations to buildings at the north-eastern end of the Mall in connection with the Queen Victoria Memorial would be completed and the unsightly advertising hoardings now occupying the site removed.

Sir John Gilmour replied that the Office of Works was not responsible for carrying out the alterations, but so far as he was able to ascertain it was hoped the work could be begun in about two months' time, and if everything proceeded normally the buildings should be completed in fourteen months.

# A WHITE CEMENT FOUNTAIN.

FOR the first time there is an exhibit of pure white Portland cement at a London exhibition. The use of white Portland cement—the existence of which has been unknown to many architects in this country—for cast stone and for stucco work has become general in both North and South America, and interest in the possibilities of employing white Portland cement for outside decoration, in pure white or in various shades and colours, is now being aroused in Great Britain. The fountain on the Adamite Company's stand at the "Ideal Home" Exhibition at Olympia (illustrated on p. 402) shows what can be done with "Atlas White" cement. This fountain was designed by Messrs. Mewes & Davis and constructed by Messrs. Higgs & Hill, Ltd. The basin of the fountain is made waterproof by the addition of "Colemanite." The "Atlas White" Portland cement and marble chips from which the concrete of the structure are made have been handled to represent stone. The basin was watertight twenty-four hours after it was constructed. "Colemanite" (previously known as "Anti-Hydro") is becoming well known as a concrete hardener, particularly in connection with concrete floor surfaces, and has been used in the construction of the retaining wall for the Selfridge building in Oxford-street.

### The Institution of Professional Civil Servants.

The first annual general meeting of the members of the Institution of Professional Civil Servants will be held at the premises of the Royal Institute of British Architects, 9, Conduit-street, W. 1, on Tuesday, March 21, at 6 p.m.

# THE TOWN-PLANNING INSTITUTE.

## ZONING AND AMENITY.

Mr. R. A. Reay Nadin presided on March 3, at 92, Victoria-street, over a general meeting of the Town-Planning Institute, when papers were read by Mr. Barry Parker, F.R.I.B.A., and Mr. W. H. Gaunt.

Mr. Barry Parker dealt with the subject of "Zoning to Secure Amenities," and discussed the question of the definition of "amenities." He considered all that which could be secured by restrictions placed on the heights of buildings and the number of houses to the acre came under the definition of "amenities." To find zoning done with great detail, thought, and care they had to go to America, and they might take the recently published zone plans for Cleveland, Ohio, as an example. In these plans the city was zoned in three ways: (1) into "user" districts; (2) into "height" districts; and (3) into "area" districts. In prescribing a minimum area per lot, in each district, the promoters of the scheme had taken the family as the unit, and there seemed to be many advantages in this. The definition of a "family" was "a housekeeping unit." In those districts in which the greatest density of population was permitted they only prescribed 612 square feet of "lot" area per family, but in the districts which were to be most sparsely populated they demanded 5,000 square feet per family. Mr. Parker proceeded to deal at length with what he described as the "retrograde movement for higher buildings initiated by Sir Martin Conway." He reviewed the action of the London County Council and the Royal Institute of British Architects in regard to the movement, and quoted from the report of the Art Standing Committee of the Institute, in which it was stated that "the natural rule to follow is to have low buildings and wide streets in northern climates and high buildings and narrow streets in southern ones." As to the latter suggestion that the natural rule to follow was to have high buildings and narrow streets in southern climes, he said it was interesting to note that the experience of those who lived in hot countries no longer supported that theory. Modern research had shown that sunlight was even a more powerful agent in the eradication of disease in tropical climates than it was in temperate climates. It had been found that in places to which the direct rays of the sun never penetrated disease was generated and fostered in hot countries. So completely had that been proved that in Sao Paulo, in Brazil, a tropical city with 500,000 inhabitants, the authorities had passed a law prohibiting anyone from building a wall which prevented the rays of the sun from reaching the base of any other wall for at least a minimum of two hours a day throughout the year. That meant that in no new buildings could there be a well or court so deep that the sun's rays did not reach the bottom of it for at least a minimum of two hours a day. It meant that every building had to be so far away from its neighbour on each side that for at least two hours a day it cast no shadow on any part of the walls of a neighbouring building. The effect of that law was to prevent buildings being as close together in a street running north and south as they might be in a street running east and west. So in Sao Paulo they got the houses spaced apart differently for all the different orientations of the street from due north and south to due east and west. Further, the appreciation of the importance of the effect of sunlight in eradicating disease and promoting health had led the authorities in Sao Paulo to prescribe that the window area of every room should be at least one-fifth of the floor area, instead of one-tenth, as was prescribed here.

They should feel profoundly thankful that the retrograde suggestion to have higher buildings in London had, for the time being, been silenced. The relatively low height of buildings in London, in comparison with those in many American cities, was a legacy for which they should be grateful when they saw the efforts which were being made in New York and other American cities to prevent the recurrence in the future of the troubles their high buildings had created for them. It would be said that there was no suggestion that they should have "skyscrapers" in London, but the difference between the suggestions made and a suggestion to have "skyscrapers" was only one of degree. In London their streets were narrow, and unequal to the demands of traffic. With higher buildings, those demands would be increased. Many of the streets of New York were entirely incapable of coping with the crowds which poured into them when the tall buildings were emptied of their inhabitants at lunch time and at closing time. The services such as gas, water, and electricity mains and the sewers had proved to be unequal to the demands made upon them; and the municipalities had been put to great expense by the necessity for reconstructing all those services. Many streets in American cities were dismal, dark canyons to-day. What would the Americans think of them if, with their knowledge of what America's experience had been, they went in the direction America had found to be so mistaken a direction? He had given the instance of Cleveland as an American instance of very detailed provisions for "Zoning to Secure Amenities." As well as in Germany, in some Brazilian cities a simple method of zoning had been in force for a long time with considerable success. In those cities there was the "central zone," the "suburban zone," and the "urban zone," each with by-laws regulating buildings and streets in its particular zone. It was in prescribing the number of houses to the acre, and the proportion of the area of each lot which might be covered by buildings, that zoning could do so much to secure amenities. But what a zone plan might also do, by fixing building lines, was far from inconsiderable. The absence in the past of the power to enforce a building line had created many of the difficulties met with in American cities, and had made possible the great injuries which one man had done to another. He would not fix these building lines at the same distance from the street throughout the length of a road in every case. He would so fix them that buildings on carefully-selected sites should stand in front of, or back from, the general building line. That would make possible an effect which often had great charm, and was produced by closing in a little at one end, or both ends, of a street. It would also make it possible to close in a length of a street which would be very monotonous had all the buildings along it toed the same building line. It was by prescribing the number of houses to the acre that an agricultural belt around a town could be preserved. It had now been proved that it was entirely practicable to enforce the spirit of a regulation which laid down the number of houses to the acre. If it was possible to secure twelve houses to the acre, then it was possible to secure twelve acres to the house (or whatever number might be thought to be right in an agricultural belt) in the same way. An agricultural belt was surely one of the greatest amenities a town could have. The only alternative way of securing it would seem to be the scarcely practicable one of prohibiting building of any sort on it, as had been done with the "Stray" at Harrogate. The zone plan prepared with a view to securing amenities would, of course, prescribe the areas to be left as parks, park ways, and open spaces, and not built upon at all; and on it would be shown sites for public and semi-public buildings.

Mr. W. H. Gaunt pointed out the distinction between zoning applied to industries and zoning applied to residential amenities. For industrial zoning there was a more complex range of conditions to be met—zoning imperially first, in fitting the industries to their most suitable district over the whole range of the country, and then zoning locally in the sense of grouping the industries in the right quarter of the town or district once it was agreed that they should be in the district at all. They were all hoping that the Town-Planning Act of 1919 would assist in industrial zoning, and allow industry and industrial land to benefit as much as residential conditions and land. It could only do so if there was generous co-operation with the local authority by existing industrial and commercial interests in determining the general scheme. The possibilities of canal traffic were very limited in the present-day competition of other forms of transit, and probably no new canals would be made. But every mile of canal frontage should be included as far as possible in the industrial zone, and rigidly restricted from any but industrial frontagers, even if the possibilities of early development were remote. The author also pointed out the advantages for dealing with sewage, labour supplies, and transport to be gained by having special factory areas.

Mr. S. Pointon Taylor urged the importance of always keeping in mind that what were amenities for one class of persons were not amenities for another class.

Mr. T. W. Mawson said the limitation of the heights of buildings was undoubtedly one of the most important features in a zoning plan, and he felt they had been unduly agitating their minds over what was in essence a very simple matter. As applied to London it was purely an economic question, which could not be solved by the fixing of any arbitrary standard. Each street and building would have some factor which needed separate consideration. The most vital of all the questions was the traffic problem. Up to now in London they had thought of traffic facilities in terms of passengers, but the time had come for thinking of passengers in terms of traffic facilities. It was no longer a question of limiting the heights of buildings, but of limiting the floor area of buildings in terms of street areas and transport facilities.

Mr. E. R. Abbott said they had to be practical, and what might be possible if they were dealing with a large area owned by one person was quite impossible when they had two or three hundred owners. The proposal to have an agricultural belt round a town of 50,000 inhabitants was idealistic, but how was it going to be done?

Mr. Raymond Unwin said it was necessary that they should offer some guidance to local authorities and to the Government as to how far it was right and just to fix amenity standards strictly. There were certain amenities which could only be afforded by a limited section of the community, and they had to consider if they were justified in recognising that fact. Then there were amenities at Richmond Hill and at Hampstead which depended on certain land being unbuilt upon, but did not depend on the public having actual access to the land. How they were to deal with such points was a problem of the greatest importance.

Mr. J. Crouch, Major Lovelock, Mr. C. B. Willcocks and Mr. G. C. Pepler also joined in the discussion.

### Golden Wedding.

Mr. Arthur Wells, Managing Director of Messrs. S. W. Francis & Co., Ltd., engineers, of Gray's Inn-road, celebrated his golden wedding on Saturday last week.

# HOUSING AND TOWN-PLANNING NOTES.

### The Cost of Pre-war Cottages.

Writing to the *Eastern Morning News* on the cost of house building, a correspondent states: "In Hull, before the war, a four-room house was built and finished for anything between £70 and £100, according to the standard of the speculating builder who erected them. A six-room house was built at from £120 to £130. About twenty years ago the Hull Corporation erected about sixty six-room houses off New Bridge-road. They were let by contract at about £250 each. The Corporation had to let them at the same rate as other 'jerry' built houses were let at—about £15 12s. per year, including rates, or 6s. per week. These houses have not paid ½ per cent. interest on the outlay up to the present time." The letter continues, "If the Government at the end of the war had said to the builders, 'We have millions of standards of timber, go and help yourselves at £19 per standard'—instead of letting the timber merchants have it at £19 they charged the public £45—there would have been plenty of houses now. Other building materials were the same—a six-foot length of fall pipe could be bought for 1s. 9d.; now it costs 13s. Bricks have now been 'released.' Any business man in 1919 would not have bought all the bricks in the brickyards at upwards of £5 per thousand, when the makers were profiting £2 per thousand by the deal."

### Land for Houses.

Mr. Howard Martin, Official Arbitrator, has issued his award in a claim by the trustees of the late William Hallett against the County Borough of Brighton, concerning the Corporation's compulsory acquisition, for housing purposes, of about twenty-five acres of land, known as the Enclosure Estate.

The award is that the acquiring authority is to pay the claimants the sum of £15,965, the acquiring authority to pay the hearing fee, and each party to pay its own costs.

At the hearing of the claim, evidence was given on behalf of the claimants by Mr. Samuel Denman, who submitted a valuation of £20,000. He said his original valuation of the property was £25,240, but he thought the market value now was £800 per acre. He expressed the opinion that in nine years the land would be covered with houses.

On behalf of the Corporation, Mr. C. F. C. Culverhouse, District Surveyor, submitted a valuation of £12,139.

Mr. Harry Tillstone, Borough Surveyor, said building in Brighton decreased from 1910 to 1919, but it was now on the increase.

### Cardiff Housing Scheme.

The Cardiff Housing Committee has decided not to accept any further tenders for concrete houses. Tenders were received for the erection of another block of houses on the Ely site, £460 being the lowest price for non-parlour houses, and £530 for the parlour type.

### Newport Housing Scheme.

The Newport Housing Committee proposes to invite tenders for a further 140 houses on the Somerton Estate.

### Housing Finance.

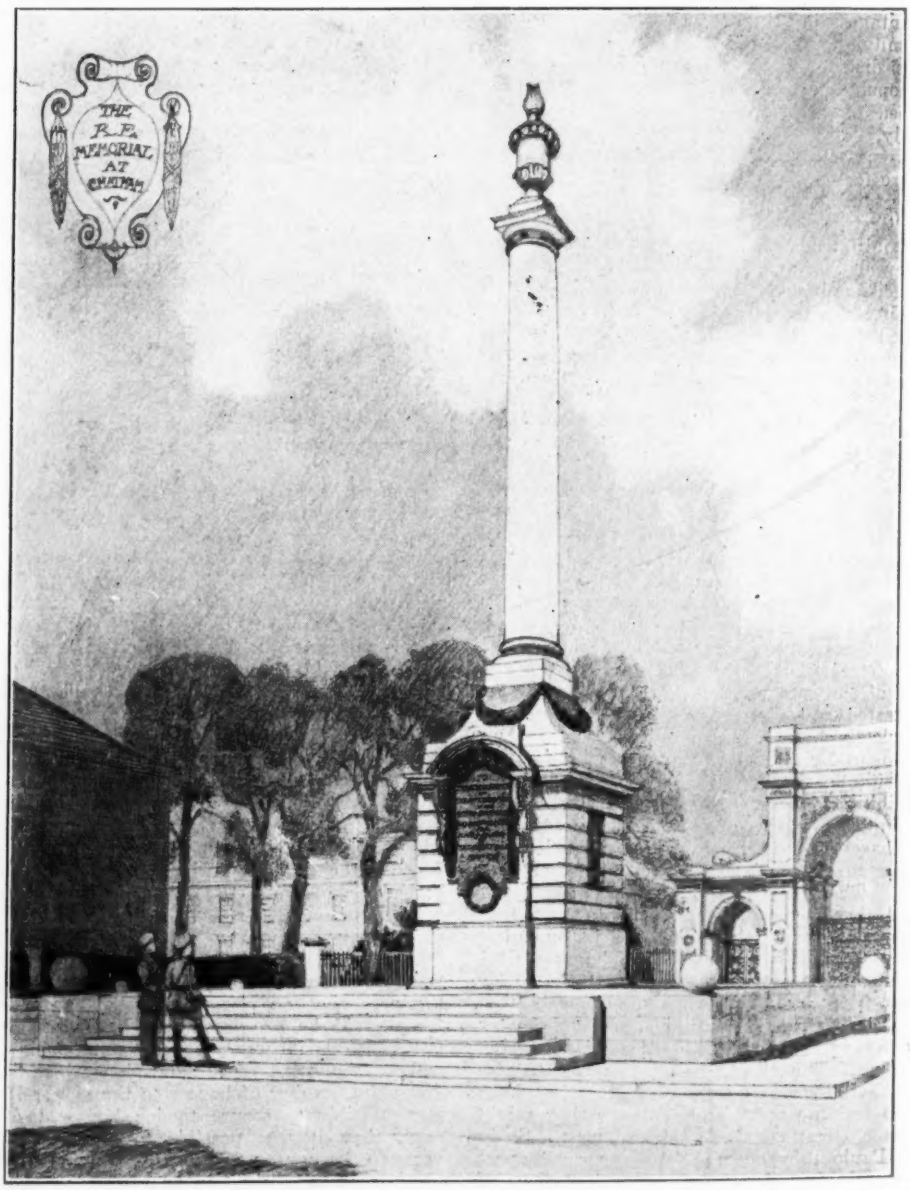
In its fortnightly memorandum the National Housing and Town-Planning Council states:—"There is a consensus of opinion that the prices at which tenders are being let at present (viz., from £400 to £500 per cottage) are likely to be normal for three or four years to come. At the most a fall of from 10 per cent. to 15 per cent. is anticipated. If this view is well-founded, then the all-in cost for building a parlour cottage, including land and roads, will be £500. In order to make investment in houses costing £500 an acceptable proposition from the point of view of business men, a return of at least ten per cent. must be secured, made up as follows: (1) 5 per cent. interest on the money borrowed to purchase the houses; (2) 2 per cent. for repairs and other charges; (3) say 3 per cent. for profit. This will leave no sinking fund. But possibly a 3 per cent. profit might be regarded as covering this (a 3 per cent. sinking fund is needed to repay a loan in 20 years at 5 per cent.). If 10 per cent. be taken as the return needed by a business investor, then the tenant must pay a rent of £50 a year for a £500 cottage—say, 30s. per week in rent and rates. The average artisan whose wages are rapidly falling cannot possibly afford to pay a rent of this amount." As a result of these and other considerations, the Council desires: (1) to place on record its agreement as to the necessity for reducing the cost of houses by all possible means; and (2) to call upon the Government steadfastly to carry into effect the policy embodied in Sections 1 and 7 of the Housing and Town-Planning Act, 1919, in this way honourably fulfilling the pledge given by the Prime Minister.

### The Government Housing Scheme.

The Ministry of Health estimates for 1922–23 show an increase of £4,630,000 in grants towards the deficit on housing schemes, the new Estimates being £9,630,000, against £5,000,000 for the current year. The subsidy to private builders is £2,500,000, against £5,000,000; the purchase of housing materials is £240,000, against £4,800,000; compensation to contractors is £10,000, against £250,000. Under the Scottish Board of Health there is an increase of the deficit on the Rosyth housing scheme from £22,000 to £29,000. The subsidy to private builders in Scotland is less by £330,000, and the purchase of housing materials by £970,000.

### A Business Jubilee.

In order to celebrate the fact that Mr. Montague Edwards had served 50 years with the firm of Messrs. Young & Marten, of Stratford, of which he is the Managing Director, a gathering of the staff took place on Saturday last to present him with a mark of their esteem and loyalty. Mr. Benjamin Carter presided. The presentation, comprising a silver tea and coffee service and an illuminated album, was presented to Mr. Edwards by Mr. J. I. Emery.




**Design submitted in the Royal Engineers' War Memorial (Chatham) Competition.**
By MR. G. BERKELEY WILLS, A.R.I.B.A.

[This monument would be placed on the axis line of two arches, flanked by roadways and raised lawns bounded by stone curbs and low yew hedges or clipped limes, terminated by simple stone piers. The monument consists of a podium of channelled stonework, 10 ft. square, standing on a raised platform, 40 ft. square. The column would be 30 ft. high, surmounted by a carved urn terminated by a grenade—the badge of the Royal Engineers. The total height would be 60 ft. The total cost was estimated at £8,950.]

# THE BUILDING TRADE.

## WORKING HOURS IN THE BUILDING INDUSTRY.

WE have received the following letter from Mr. R. Arthur Costain, of Messrs. Richard Costain & Sons, Blundellsands :—

"SIR,—A great deal is being said and written on both sides by the employers' and operatives' organisations on the above subject. On the operatives' side the 44-hour week is being made a fetish. On the employers' side the proposed extension of hours appears to be looked on in the same light. One may presume that both sides are animated by a desire in the first place to secure the welfare of their members, and in the second place to render efficient service in their respective spheres, through their industry, towards the welfare of the community.

"In respect of most of the conditions of employment both sides agree. For example, it is admitted as being essential that the workman shall be able to maintain himself and his dependents in a state of efficiency on the earnings of an average week. It is also admitted that maximum efficiency, provided reasonable application is given to the work on the part of the worker, together with competent management, can be secured by a certain number of working hours, the number of hours to be determined. It must not be lost sight of that the employers occupy a position of dual responsibility, on the one hand to the community to secure such conditions as will result in an adequate return for the expenditure, and on the other hand to the operatives to secure that the conditions under which the work is carried out shall not exhaust or impoverish the worker. Further, the determining factor in the result to the community is to be found in the unit of production per working hour taken in conjunction with the rate of wages, which may be expressed, therefore, as a unit of production per pound paid in wage.

"The most important factor in securing efficiency on the part of the operative is the reduction to a minimum of the factor of waste time. To this end the greatest advance in the conduct of building trade conditions has been the elimination of the 'pre-breakfast start.' There should be no return to the old conditions of men coming to work hungry and putting in time until the meal is ready. As a matter of fact, in the writer's district the 'one-break day' was first adopted on the suggestion of the employers. The operatives at first would agree to try this only for an experimental period. During this time the employers paid for one-half of the time apparently lost. This proposal did not receive the unanimous support of the employers, and some latitude was allowed in the first year or two. In the end both sides agreed that the alteration had been fully justified, and for the past eleven years 8 a.m. has been the hour for commencing work.

"On the other hand, it is equally important that during the winter months of the year the working hours shall terminate at dusk, not later than 4.30 p.m. The 'waste' here must be eliminated, as the community cannot afford to pay for this worthless time. Although it does not greatly concern the employer whether work shall cease at 5 o'clock or be extended until 5.30 during the summer months, if the workmen are desirous of retaining the 5 o'clock stop a full day's work can be turned out during the 8 working hours (8–12 and 1–5). It is up to both sides to come to an amicable understanding. This will assure the public that the building industry (employers and employed) realises that it is its bounden duty to give the public full value for the money it receives.

"There is no real conflict of interest here if the position is really understood. On the other hand, either side may allow itself to be carried away by a mistaken idea, imagining that its own sectional interest is identified with either of the catchwords that appear to be in danger of being adopted as party cries, namely, 'increased working hours' and '44 and no more.' The result will be an unnecessary conflict that can do no good, and must certainly do immense and irreparable injury to all."

## TRADE DEPRESSION.

THE problem upon which all minds should be concentrated at the moment is how can trade be revived, but this question is being obscured by many other issues, and unfortunately all the axes being ground are not economy axes.

A memorandum recently prepared by the Production Cost Sub-Committee of the Trade Depression Committee of the Federation of British Industries on the "Earnings of Labour and Costs of Production," is well worth considering, but in this note we must confine ourselves to only one or two points. The report sets out the three great underlying causes of the present world depression, but it is to the third cause we desire to refer. That is stated to be in certain countries the low ratio of output to wages, which means that at present relative values the individual is producing less than he consumes. The memorandum attributes this condition to three causes: (1) loss of individual efficiency attributable to the war, (2) the increase of wage rates contemporaneously with the reduction in hours, and (3) in some part to the restrictive regulations of the trade unions and to the unwillingness of the individual worker to increase his output when once a certain level of wages has been obtained.

In dealing with the question of reducing wage costs, the report points out that this can be accomplished in two ways, either by reducing the rates of wages or by giving greater output for the wages received. As regards reducing wages, the report deals with one of the objections usually urged against such a course, i.e., that it reduces purchasing power, and with great force points out that that statement is only true if employment can be maintained, but that owing to our dependence on foreign imports the rate of wages industry can afford to pay must primarily be governed by what our foreign customers are prepared to give for our goods, thus any attempt to maintain the existing level of wages must result in unemployment when the prices obtained from abroad are insufficient. This is obviously true, and the purchasing power of wages paid without reference to the reproductive character of the work done must savour of that class of activity known as "taking in each other's washing."

As regards output, the report also deals with the argument that when work is slack it is best to spread it over a greater number of people, and points out that this can only be done where increased cost per unit of output is not caused thereby. The report states that if price reductions are to be made without impairing the standard of living the workers must be prepared to give a higher output, and that it may be desirable even to resort to extended working hours where considerations of efficiency will permit of it. In this connection we may refer to the estimate made by Lord Weir as to the effect of the shortened working week in increasing costs of production (see *The Builder*, October 28). The memorandum points out that if greater output can be secured and longer hours worked, even then a reduction in wages and in the standard of living may be a necessity. The report ends with observations on the need for co-operation between employers and employed, and suggests that the workmen should be given a better insight into the working of the industries which employ them.

## TRADE UNION RULES.

Mr. Wm. Woodward, F.R.I.B.A., writes :—

"SIR,—One of the most gratifying pieces of information which I have read during the past few years is the following, which I have extracted from *The Times* for February 27, 1922 :—

"'Reforms of importance to the relations between employer and worker in the American building trades are embodied in a "consent decree," which was signed at Washington by the Attorney-General, Mr. Daugherty, and representatives of the bricklayers', builders', and plasterers' international unions of America.

"'The union officials signed the "consent decree" providing that no limit shall be set (1) on the productive capacity of any workman within the working day or at any other time; and (2) on the right of employers to purchase material wherever and whenever they please, regardless of whether it is union-made or not. The unions further pledge themselves to show no favouritism or discrimination in their relations with employers' associations and independent employers.'

"I have been expecting that some reference to this important communication would have been made by the London contractors, or by the labour leaders; but I have not seen a word about it in the Press, and perhaps you will be good enough to insert this letter, which will, I hope, open the eyes of the public generally, and trade unionists in particular. If such an agreement could be entered into in London, the business of architects, builders, and all the ramifications from the building trade, would immediately go up leaps and bounds."

## DAMAGE TO PROPERTY BY RIOT.

ANOTHER case arising out of what are called "peace celebrations" has come before the courts in the case Freeman *v.* Receiver for the Metropolitan Police District. Some children appear to have started a bonfire in the street, and older persons seem to have allowed themselves to be carried away by their feelings and to have fed the flames with wood procured from an unoccupied and somewhat dilapidated house, in all probability using hammers and choppers to break up the woodwork. The action was brought by the lessee of the house, claiming compensation under the Riot (Damages) Act, 1886, out of the police rate.

In our issue for April 1, 1921, we noted a similar case—Ford *v.* Receiver for the Metropolitan Police District—and in that case the five essential elements to constitute a "riot" were laid down. The number of persons concerned must be not less than three; there must be a common purpose; execution of a common purpose; an intent on the part of the persons concerned to help one another against any opposition; and force or violence not only used in or about the common purpose, but displayed in such a manner as to alarm at least one person of reasonable firmness and courage. In the case under consideration, although the crowd appears to have been described as good-natured, the court found all the elements present and judgment was given for the plaintiff.

The last element is easily satisfied, for although persons may be described as good-natured so long as they are not interfered with their demeanour may be such as to show that any interference would result in a display of violence. The regrettable feature of these cases is that they are the work of irresponsible hooligans. for whose horseplay the ratepayers have to pay.

# NEW BUILDINGS IN LONDON.

WEST CENTRAL.—Extensive alterations are proceeding at the premises on the corner of Bloomsbury-street and Streatham-street, consisting of the conversion from a private hotel into a modern shop and showrooms. The plans have been prepared by Mr. C. FitzRoy Doll, of 5, Southampton-street, W.C. 1. The builders are Messrs. Mullen & Lumsden, Ltd., of South Norwood, S.E. 25. Chiefly brick construction will be employed in the reconstruction; and the necessary steelwork is being supplied by the Aston Construction Co., Ltd., of Eagle Wharf-road, N. 1. Electric lighting will be installed by Messrs. J. O. Grant & Taylor, of 63, Queen Victoria-street, E.C. 4. The estate agents are Messrs. T. H. Martin & Co., of 7, Bloomsbury-street.

HOUNSLOW.—A new combined concert and dancing hall and skating rink is about to be erected on a site outside the South-Western Railway Station, having an area of about 330 ft. by 120 ft. The hall will have a floor area of about 10,000 sq. ft., and will be built in reinforced concrete with a roof partly of slate and the remainder flat, which will be asphalted and used for exhibition skating. The surrounding grounds will be laid out as tea gardens. The owner and builder is Mr. Wellstead, of 393, High-road, Willesden Green. The probable cost of the project will be about £8,000 or £9,000, and it is hoped to complete the work in about three months. Mr. Wellstead later contemplates erecting about twenty bungalows on land adjoining the present site.

HAMMERSMITH.—A new out-patients' department is now being added to the West London Hospital, in Hammersmith-road. The new building, measuring about 80 ft. square, will have one floor for the present, but the construction will be such that another story may be added later. Concrete construction will be employed to fireproof the steel frame, which is being supplied by Messrs. Archibald D. Dawnay & Sons, Ltd., of Battersea, S.W. 11. The architect is Mr. A. Alban H. Scott, of 13, Old-square, W.C.; and the main contract is being carried out by Messrs. John McManus, Ltd., of 237, Hammersmith-road. Other sub-contracts placed are as follows: Heating—Messrs. James Gray, Ltd., Danvers-street, Chelsea; glazing—Messrs. Mellowes & Co., Ltd., 26, Victoria-street, S.W. 1.

ACTON.—The shop premises at 158, High-street are being reconstructed and re-fitted ready for occupation by Messrs. Goodrich Bros., wholesale clothiers, 65, East-road, City-road, N. The plans, prepared by the architects, Messrs. North, Robin & Wilsdon, F.R.I.B.A., of 99, Regent-street, W., provide for structural alterations, an extension at the rear of the premises, and modern shop-fittings with plate-glass front and lead lights. The building and all other work is being carried out by Messrs. Harry Groves & Son, Stockwell-street, S.E. 10.

An open space of about twelve acres in South-field-road, previously used as allotments, is now being converted into recreation grounds for the Acton Borough Council. Provision is to be made for a number of grass tennis courts. The work is being carried out by Mr. Hirham Morecroft, of 14, Twyford-crescent. The provision of a timber fence and other features is now under consideration.

HARLESDEN.—Building operations are in progress at the works of Messrs. Beckett, Laycock & Watkinson, Ltd., of Acton-lane. The extension comprises the addition of two bays to the existing works, which will provide additional floor space of about 3,840 sq. ft. Mr. Frank Nicholls, architect, of 62, Moorgate-street, E.C.2, has prepared the plans, and the contract has been let to Messrs. J. & J. Dean, of Knotts Green-road, E. 10. The architect is also placing the various sub-contracts for steelwork, glazing, metal casements, &c. Brick construction is being employed, and part of the new bays will be fitted as offices and the remainder as workshops.

We are asked to state that the steelwork for the extension of the garage at Hampton-street, Walworth (mentioned in our issue for March 3), is being supplied by Lindsay's Paddington Ironworks, Ltd. In addition to the existing storage tanks, underground tanks are being built for the storage of 4,000 gallons of petrol. The architects are Messrs. George Lansdown & Brown, of 9, Regent-street, S.W.

SOUTHWARK.—Active operations are in progress on the L.C.C. Tabard-street housing scheme. The old slum dwellings, which occupied an island site of some five acres, have been demolished and the ground turfed as a public park around which a number of blocks of working-class tenements are in course of erection. The plans have been prepared by Mr. Topham Forrest, Architect of the L.C.C. The builders are Messrs. Rowley Bros., of Wood Green, N. The tenements will have accommodation varying from two to five rooms with bathrooms fitted with "Potterton" boilers, and "Servall" ranges will be installed in the living rooms. One block, "Beckett House," was completed some months ago, and "Jeffry House" will be completed by the end of this month. Block 4A, measuring 156 ft. by 63 ft., and Block 4B, 179 ft. by 63 ft., are in course of erection, and others will follow in due course. The steelwork is supplied by Messrs. Dorman, Long & Co., Ltd., 4, Central Buildings, Westminster. Brick construction is being employed, with floors of reinforced concrete, and the roofs will have the original pantiles taken from the old property which has been pulled down.

## Staff Dinner.

The directors of the old-established firm o Geo. Munday & Sons, Ltd., entertained their staff to dinner at Anderton's Hotel, on Friday evening last. Mr. H. G. Searle, Chairman of the firm, who presided over an attendance of 70, in a few words of welcome said that while the firm was spoken of as the oldest in London it might be equally true to say it was the oldest in the land. He went on to point out that while they had traded as Geo. Munday & Sons since 1770, the firm was founded in 1710 by one named Jas. Munday, and had continued as such down to the previously mentioned year, when it assumed its present title. Commenting on the present depression in trade, which had not affected the firm so badly as others, he could detect definite signs of a revival, and he hoped masters and men would get together and so adjust their differences that they would be able to take full advantage of the rising tide. It was only through a mutual understanding and appreciation of one another's position that success could come. The toast of "Architects and Surveyors," proposed by Mr. J. A. Brown (director), was responded to by Messrs. J. H. Pearson (architect) and R. G. Bare (surveyor). "The Firm" was proposed by Mr. S. G. Parr (of Messrs. Parr & Sons, architects). Mr. G. L. Nash (secretary and director) and Mr. J. R. Hickman (director) proposed the indoor and outdoor staffs respectively.

## The Gas Stove Industry.

In the course of his speech at the ordinary general meeting of Radiation, Ltd., last week, the Chairman, Mr. H. James Yeates, after some interesting remarks on present-day industrial problems, such as output, the length of the working week, unemployment, the education of the workers, the cost of materials, etc., dealt with the objects of Radiation, Ltd. The object in forming Radiation by getting together all the principal manufacturers of gas stoves in this country was, he said, to stop waste and useless expenditure and to provide the public with goods better made and more efficient. He was satisfied that if all the advances made by manufacturers in their prices since the war began were carefully reviewed it would be seen that the gas stove makers had not advanced their prices to nearly the same degree as most other manufacturers. They delayed raising their prices at all until some time after the outbreak of war, and on each occasion when they did make an advance it was not done until it was long overdue. It would not therefore be just, nor indeed possible, for them to make price reductions on the same basis as manufacturers of some other goods. But they had brought prices down in a way which could not have taken place but for the fact that all the principal gas stove firms were united as Radiation. The reductions already effected, good though they were, did not represent the whole advantage they were able to offer. They had set themselves a very high standard of quality and efficiency in all their goods; and they made nothing but the best. They spent many thousands of pounds a year in research and experimental work, and it was that research work which was the driving-force in the gas stove industry. The work they had on hand of the standardisation of all goods as among the various companies of Radiation was an uphill task, but great headway had been made. When their programme in this direction was completed, gas undertakings would be in the position of being able to reduce enormously their stocks of parts, their cost of maintaining stoves to the public who hired stoves from them would be considerably reduced, and the public would have the most efficient and reliable stoves.

## Birmingham and District Clerks of Works' and Building Foremen's Association.

The annual dinner of the Birmingham and District Clerks of Works' and Building Foremen's Association took place on Saturday last week, when Mr. W. T. Sapcote presided. The function was attended by about 125 members. In proposing the toast of the Association, Mr. H. H. Crump (Vice-President of the Birmingham Building Trades' Employers' Association) said during recent years greater efficiency had been shown by clerks of works and builders' foremen. If that Association and that of the employers became more closely connected it would result in great benefits to each body. It would mean, at any rate, that little differences that occasionally arose between them would vanish altogether. Often clerks of works did not realise the many difficulties with which employers had to contend. After an employer had put in the best work he could, it was a matter for regret that sometimes he found that the work was condemned by the clerk of works. They only desired fair consideration. He was hopeful that in the near future a system would be instituted whereby the exact functions of clerks of works would be properly defined. It was very pleasing to know that a considerable number of clerks of works and builders' foremen were members of that Association, whose relationship with the Employers' Association was of a most amicable description.

Mr. F. J. Knight (Honorary Secretary of the Association), in responding, said their society now had a membership of over 200; two-thirds representing general and sectional foremen, and the remainder clerks of works. During the year the total amount of subscriptions had been doubled, and the Benevolent Fund now stood at over £63. He was delighted to be able to confirm Mr. Crump's remarks in stating that the relationship existing between them had continued to be of the friendliest character, and there was nothing to suggest that difficulties which might arise in the future would not be discussed in the same spirit and desire to reach mutually satisfactory conclusions as had characterised their deliberations in the past.

## Obituary.

The death took place at Cardiff recently of Mr. Osborne Newcombe, a well-known builder and contractor, in his 39th year. Mr. Newcombe, with his late father, was responsible for the erection of a large number of public buildings in Ebbw Vale and Tredegar. He was also the contractor for the Radyr housing scheme of the Llandaff and Dinas Powis Council. Mr. Newcombe was a member of the Cardiff and District Building Trades' Employers' Association, and of the Ebbw Vale Building Trades' Association.

Mr. Thomas Ainscow, builder, of Southport, died last week, at the age of 75 years.

Mr. Evan Jones, of Groeslon, near Carnarvon, who died last week at the age of 89 years, was well known in the district as the builder of many churches and chapels.

## BRITISH TIMBER.

"British Timber" was the subject of a series of lectures recently given at the College of Estate Management by Mr. M. C. Duchesne. The production and utilisation of timber was considered chiefly from the point of view of the private landowner. In the first lecture, delivered on February 17, Mr. Duchesne pointed out that successful practice required a close study of the variable economic conditions which influenced costs of production and marketing. He was of opinion that the production of native timber utilised in this country was not more than one-tenth of the total consumption. Therefore, the markets were ruled by imported timber and the home producer must provide for existing demands. With reference to estate forestry, it was essential that each wood should be grown with a definite object, and that the woods should be managed according to a working scheme. On taking over an estate, a census of the standing timber should be made for use in subsequent management and sales of timber.

In the second lecture, the lecturer dealt with the practical aspect of timber production on landed estates. In deciding which species to grow, he said important factors to be considered were the probable future demands of both general and local markets and the soil and climatic conditions of the locality. On the whole, insufficient attention was paid to the sylvicultural characteristics of trees in planting, and that had led to planting trees in unsuitable situations and the formation of mixed woods of ill-assorted species. Conifers should, as a rule, be grown pure, because it was particularly important that their timber should be free from knots. With hardwoods, mixtures were essential in many cases.

The final lecture dealt with the felling and marketing of timber and other woodland produce. It was explained that the allowances for bark were taken too much according to custom, which varied greatly in different districts, and that during the war the Government advocated percentage reductions which deserved to be more generally adopted. It was impracticable to give prices for the different kinds of timber standing which would be generally applicable. Much depended on quality, *e.g.*, the best ash might fetch 5s. per cu. ft., while low-grade ash might be worth only 1s. per cu. ft. The cost of extraction and transport also accounted for great differences, *e.g.*, good beech in Bucks, where much of this timber was converted, had been sold for 1s. 6d. per cu. ft., but the same grade in Devon might not command more than 4d. or 6d. per cu. ft.

### Portland Cement for Dakar.

Tenders are invited to be presented to the Director, Public Works Department, Dakar, French West Africa, on April 14, for 600 tons of Portland cement in double casks of 50 kilograms: 300 tons deliverable on quay at Conakry, May 31; 300 tons on quay at St. Louis, July 31. Deposit of 4,000 francs required. Firms interested should communicate either direct or through their agents with the Director.

### The National Wages and Conditions Council.

The proposals for the reduction of wages in the building industry under the sliding scale and for the extension of the 44-hour week were considered by the National Wages and Conditions Council for the Building industry on Wednesday and Thursday this week, and will be continued to-day.

### Brickmakers' Wages.

A conference was held last week between representatives of the Nottingham Brick Manufacturers' Association and the Nottingham branch of the Builders' Labourers' Society and of the Nottingham Miners' Association on the question of wages. A reduction of 9s. per week was suggested by the employers as an essential concession before they were prepared to put forward schemes for the future regulation of wages. The men's representatives decided to make further inquiry into the proposals, and a second conference will follow.

## RATES OF WAGES IN THE BUILDING TRADE.

**The following are the rates of wages in the building trade in England and Wales. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—**

| | Masons. | Bricklayers. | Carpenters, Joiners. | Plasterers | Slaters | Plumbers. | Painters. | Masons' Labourers. | Bricklayers' Labourers. | Plasterers' Labourers. |
|---|---|---|---|---|---|---|---|---|---|---|
| Aberdare | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Accrington | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Altrincham | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Ashton-under-Lyne | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Barnsley | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Barrow-in-Furness | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Barry | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Bath | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/4½ | |
| Bedford | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Birkenhead | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | | 1/9½ | |
| Birmingham | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/1 | 2/0 | | 1/7 | |
| Bishop Auckland | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Blackburn | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Blackpool | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Bolton | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Bournemouth | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Bradford | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Bridgwater | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | | 1/2½ | |
| Brighton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Bristol | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Burnley | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Burton-on-Trent | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/5½ | |
| Bury | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Cambridge | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Cardiff | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Chatham | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | | 1/3 | |
| Chelmsford | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Cheltenham | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/4½ | |
| Chester | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Chesterfield | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Colchester | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Coventry | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Crewe | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/5½ | |
| Darlington | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Derby | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Doncaster | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Dudley | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/5½ | |
| Durham | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| East Glam. and Mon. Valleys | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Exeter | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/7 | | 1/3½ | |
| Folkestone | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | | 1/3 | |
| Gloucester | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/8 | | 1/4½ | |
| Grantham | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/5½ | |
| Grays | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0½ | 1/11 | | 1/7 | |
| Grimsby | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Great Yarmouth | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | | 1/3 | |
| Guildford | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Halifax | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Harrogate | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Hartlepools | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Hastings | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | | 1/3 | |
| Hereford | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/8 | | 1/4½ | |
| Huddersfield | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Hull | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/3½ | |
| Ipswich | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/7 | |
| Lancaster | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/5½ | |
| Leamington Spa | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/7 | |
| Leeds | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/- | 2/0 | | 1/7 | |
| Leicester | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/5½ | |
| Lichfield | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/7 | |
| Lincoln | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/9½ | |
| Liverpool | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | 2/2 | | 1/7 | |
| Llanelly | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| London | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0½ | 1/11 | | 1/7 | |
| Loughborough | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/3½ | |
| Luton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3 | |
| Maidstone | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | | 1/7 | |
| Manchester | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Mansfield | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Merthyr Tydfil | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Middlesbrough | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Newcastle-on-Tyne | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Newport, Mon. | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/5½ | |
| Northampton | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/3½ | |
| Norwich | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/7 | |
| Nottingham | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/4½ | |
| Oakham | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | | 1/7 | |
| Oldham | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/3½ | |
| Oxford | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/5½ | |
| Plymouth | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/9 | | 1/7 | |
| Pontypridd | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/3½ | |
| Portsmouth | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/7 | |
| Preston | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/3½ | |
| Reading | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/7 | |
| Rochdale | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/3 | |
| Rochester | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | | 1/5½ | |
| Rugby | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/3½ | |
| St. Albans | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/7 | |
| St. Helen's | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/5½ | |
| Scarborough | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/7 | |
| Sheffield | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/5½ | |
| Shrewsbury | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/3½ | |
| Southampton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Southend-on-Sea | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/7 | |
| Southport | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| South Shields | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Stockport | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Stockton-on-Tees | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Stoke-on-Trent | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 1/11 | 2/0 | | 1/3½ | |
| Stroud | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/7½ | | 1/7 | |
| Sunderland | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Swansea | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/3½ | |
| Taunton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Torquay | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/3½ | |
| Tunbridge Wells | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/7 | |
| Wakefield | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/5½ | |
| Walsall | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/7 | |
| Warrington | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| West Bromwich | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/7 | |
| Wigan | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/3½ | |
| Windsor | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | | 1/7 | |
| Wolverhampton | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | | 1/5½ | |
| Worcester | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/5½ | |
| York | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | | 1/5½ | |

(For rates of wages in the Building Trade in Scotland, see page 424.)

# CONTRACTS, COMPETITIONS, &c.

**For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.**

***The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.***

## BUILDING AND PAINTING.

MARCH 18.—**Bristol.**—PAINTING, &C.—(1) Plastering, painting, &c., various wards at Eastville Institution; (2) painting, repairs, &c., at Relief Depot, Mill-lane, Bedminster; (3) re-building and repairs to boundary walls of houses in Charlton-road, Fishponds, for the Board of Guardians. Mr. J. J. Simpson, Clerk, St. Peter's Hospital, Bristol.

MARCH 18.—**Gloucester.**—ALTERATIONS.—For alterations to the Nurses' Home, Russell-street, Gloucester, for Gloucester District Nursing Society. Messrs. Vale & Kingsford, surveyors, St. Aldate-street, Gloucester. Deposit, £2.

MARCH 18.—**Risca.**—HOUSES.—Erection of 50 houses on the Ty Isaf Estate, for the U.D.C. Mr. A. J. Dardis, Surveyor, Council Offices, Risca, Mon. Deposit £2 2s.

MARCH 18.—**Thorne.**—VARIOUS WORKS.—(1) Re-roofing of seven houses with slates, or alternatively tiles; (2) whitewashing, distempering and painting a portion of the interior of the Isolation Hospital, Bankside, for the R.D.C. Surveyor, Council Offices, Thorne.

MARCH 20.—**Edinburgh.**—PAINTING, &C.—(1) Painter work of new public wash-houses, Causewayside, and (2) Wire-netting fencing at Tennis Courts in Saughton Park, Rosefield, Portobello, and Harrison Park, for the T.C. Mr. James A. Williamson, City Architect, Public Works Office, City Chambers, Edinburgh.

MARCH 20.—**Edinburgh.**—WALL.—For mason work, &c., to construct a new boundary wall, &c., for the T.C. City Road Surveyor, City Chambers, Edinburgh.

MARCH 20.—**Holborn, E.C.1.**—REPAIRS AND PAINTING.—Repairs and painting at the Receiving Home for Children, 11, Lloyd-street, W.C.1, for the Guardians of the Holborn Union. Mr. Chas. J. Cross, Clerk to the Guardians, Administrative Offices, 53, Clerkenwell-road, E.C.1.

MARCH 20.—**Huddersfield.**—ALTERATIONS.—Alterations of existing premises into new club premises, for the Dyers and Finishers' Social Club. Messrs. J. H. Hall & Sons, Architects, Exchange Buildings, Market-street, Huddersfield.

✱MARCH 20.—**Ipswich.**—BUILDING SCHOOL.—Erection of the Halesworth proposed new school for about 350 children for the East Suffolk County Education Committee. Mr. J. Webb, Committee's Architect, Education Office, County Hall, Ipswich. Deposit £2 2s.

MARCH 20.—**Rathdown.**—HOUSES.—Erection of 27 cottages in Rathdown No. 2 Rural District. Mr. J. J. Healy, Secretary, Office of Public Works, Dublin.

MARCH 20.—**Ringwood.**—COTTAGES, &C.—Erection of three pairs of cottages, one single cottage, piggeries, &c., and for work to existing buildings, at "Sabines' Farm." Mr. A. L. Roberts, County Architect, The Castle, Winchester. Deposit £1 1s.

MARCH 20.—**Rowley Regis.**—PAINTING.—For painting and renovating interior of the Church of England School Hawes-lane. Council House, Rowley Regis.

MARCH 20.—**Taunton.**—HOUSES.—Erection of 19 houses for the T.C. Mr. I. F. Shellard, Borough Engineer, Municipal Buildings, Taunton. Deposit £2 2s.

MARCH 21.—**Brentford.**—ALTERATIONS.—For alterations to roof ventilation of the kitchen at the West Middlesex Hospital, Isleworth, for the B.G. Mr. F. E. Harmsworth, Clerk, Union Offices, Twickenham-road, Isleworth.

MARCH 21.—**Dewsbury.**—PAINTING.—Painting, &c., of the Public Library, for the T.C. Borough Surveyor, Dewsbury.

MARCH 21.—**Glasgow.**—EXTENSION.—Extension of the Municipal Buildings. Mr. J. Lindsay, Town Clerk, City Chambers, Glasgow. Deposit £5.

MARCH 21.—**Lewisham.**—CHIMNEY.—Erection of a brick chimney shaft upon prepared foundations for their dust destructor at Home Park Depôt, for the B.C. Town Hall, Catford (Surveyor's Department).

✱MARCH 21.—**London.**—Reglazing the North Court roof, Victoria and Albert Museum, for the Commissioners of H.M. Works. Contract Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

✱MARCH 21.—**Lydney, Glos.**—HOUSES.—For one, two, three, four or five pairs of houses upon the Tutnalls Site, for the R.D.C. Mr. Fothergill Evans, Clerk to the Council, Union Offices, Chepstow. Deposit £1 1s.

MARCH 21.—**Marlborough, Wilts.**—ERECTION.—Erection of a telephone repeater station, for the Commissioners of H.M. Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

MARCH 21.—**Nottingham.**—PAINTING.—Internal painting at the Caretaker's House, Carlton-road Reading Room; Dispensary, North Church-street; Inspector's House, Bulwell Police Station; Superintendent's House, Radford Police Station, for the T.C. City Architect, Guildhall, Nottingham. Deposit £1 each contract.

MARCH 21.—**Southport.**—EXTENSION.—Extension of the Post Office for the Commissioners of H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1. Deposit £1 1s.

MARCH 21.—**Sydenham.**—CHIMNEY SHAFT.—Erection of a brick chimney shaft upon prepared foundations for dust destructor at Home Park Depot, for the Borough of Lewisham. Surveyors' Department, Town Hall, Catford, S.E.6.

MARCH 22.—**Hove.**—PAINTING, &C.—For painting &c., at the Public Baths, Livingstone-road; also for enlarging the lavatory for women, at Hove Park, for the T.C. Mr. H. H. Scott, Borough Surveyor, Town Hall, Hove.

MARCH 22.—**Huddersfield.**—CINEMA.—Erection of a cinema theatre at Paddock Head, Huddersfield. Messrs. C. F. Mallinson & Son, architects, Market-place, Huddersfield.

✱MARCH 22.—**Leytonstone, E.11.**—Structural alterations and additions to the Main Laundry of the Central Home, Union-road, for the Guardians of West Ham Union. Mr. Thos. Smith, Clerk to the Guardians, Union Offices, Leytonstone, E.11. Deposit £2 2s.

MARCH 22.—**Liverpool.**—EXTENSIONS.—Building Contract No. 5 and extensions to Nurses' Home, at Walton Institute, for the West Derby Board of Guardians. Mr. E. B. Bailey, architect, 37, Moorfields, Liverpool. Deposit £2 2s.

MARCH 22.—**Margate.**—HUTS.—Construction and erection of thirty bathing huts, including a brick retaining wall, for the T.C. Borough Engineer, 13, Grosvenor-place, Margate.

MARCH 22.—**Stane.**—SCHOOL.—Erection of new school, Stane, Shotts, for the Lanark C.C. Mr. John Stewart, Master of Works, 56, Brandon-street, Motherwell.

MARCH 23.—**Doncaster.**—HOUSES.—For erection of 20 houses on the Carr House-road site, for the T.C. Mr. R. E. Ford, Surveyor, 3, Priory-place, Doncaster. Deposit £2 2s.

MARCH 23.—**Essex.**—EXTENSIONS.—Extensions to the Laindon Council School, to accommodate an additional 50 scholars, for the Essex C.C. Mr. Jno. Stuart, County Architect, Old Court, Springfield, Chelmsford. Deposit £1 1s.

MARCH 23.—**Hull.**—HUTMENTS.—For the erection of hutments for a temporary administrative block on the Cottingham Castle Estate, for the T.C. City Architect, Guildhall, Hull. Deposit £2 2s.

MARCH 23.—**Laindon.**—EXTENSIONS.—Extensions to Laindon Council School, for the Essex C.C. Mr. Jno. Stuart, County Architect, Old Court, Springfield, Chelmsford. Deposit £1 1s.

✱MARCH 24.—**Cheshire.**—COTTAGES AND FARM BUILDINGS.—Erection of 6 small-holders' cottages and 3 sets of farm buildings on the Gawsworth Estate, near Macclesfield, for the Cheshire County Council. Deputy County Architect, 16, Nicholas-street, Chester. Deposit two guineas.

MARCH 24.—**Elmstone.**—REPAIRS.—For sundry repairs, &c., to cottages and farm buildings, at Lodge Farm, Elmstone, for the Kent C.C. County Land Agent, Sessions House, Maidstone.

MARCH 24.—**Hammersmith.**—HOUSES.—Erection of 30 or 39 houses on their Wormholt Housing Estate, for the B.C. Mr. Leslie Gordon, Town Clerk, Town Hall, Hammersmith, W.6. Deposit £2 2s.

✱MARCH 25.—**Southampton.**—COTTAGES.—Erection of pair of cottages at the Farm Institute, Sparsholt, near Winchester, for the C.C. County Architect, The Castle, Winchester. Deposit £1 1s.

✱MARCH 27.—**Derby.**—HOUSES.—Erection of from two to twelve pairs of houses, for the County Borough Council. Mr. C. A. Clews, Borough Surveyor, Borough Surveyor's Office, Babington-lane, Derby. Deposit £1 1s.

MARCH 27.—**Rhyl.**—BUILDING.—Erection of Rhyl War Memorial Hospital, for the Committee. Mr. F. A. Roberts, Earl Chambers, Mold and Stafford Chambers, Prestatyn. Deposit 2 guineas.

MARCH 27.—**Romsey.**—COTTAGES.—For the erection of one pair of cottages, piggeries, &c., at Carter's Clay, near Lockerley, for the Southampton C.C. Mr. J. L. Roberts, Architect, The Castle, Winchester. Deposit £1 1s.

✱MARCH 29.—**Dartford, Kent.**—Repairs to dolphins at Long Reach Pier, Long Reach Hospital, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

MARCH 29.—**Kilmallock.**—COTTAGES.—For erection of 18 cottages, for the Office of Works. District Office of Works, Cork.

MARCH 29.—**London.**—POLISHING FLOORS.—For floor polishing at various London buildings, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, London, S.W.1.

MARCH 30.—**Dorchester.**—HOUSES.—Erection of blocks of semi-detached parlour type and non-parlour type houses on the Victoria Park Site, for the T.C. Mr. S. A. Jackson, architect, Dorchester.

✱MARCH 31.—**Cambridge.**—HOUSES.—Erection of 30 parlour-type houses in the Borough, for the Borough Council. Mr. J. E. L. Whitehead, Town Clerk, Town Clerk's Office, Guildhall, Cambridge. Deposit £2 2s.

✱MARCH 31.—**Cardiff.**—FILLING IN AND LEVELLING.—Filling in and levelling of site for colliery sidings in the Neath Valley. Messrs. Corcy Brothers & Co., Ltd., Glyncastle Colliery, Resolven.

✱MARCH 31.—**London, E.C.**—REINSTATEMENT WORKS—H.M. Custom House, for the Commissioners of H.M. Works. Contracts Branch, H.M. Office of Works, King Charles-streeet, London, S.W.1. Deposit £1 1s.

MARCH 31.—**Northumberland.**—BRIDGES.—For reconstruction of the following masonry bridges, for the C.C.:—Causey Park Bridge, near Morpeth; Horton Bridge, near Cramlington; Swallow Bridge, near Chollerton; Woodhorn Bridge, near Newbiggin-by-the-Sea; Crookham Bridge, near Cornhill-on-Tweed; Mill Burn Bridge, near Longhorsley; Elishaw Bridge, near Otterburn. Mr. J. A. Bean, Surveyor, Moot Hall Newcastle-on-Tyne.

MARCH 31.—**Rugby.**—PAINTING.—For painting and repairs to Harborough Magna Hospital, for the Rugby Joint Hospital Board. Mr. T. W. Willard, Surveyor Offices, Rugby.

✱APRIL 1.—**Worcester.**—COTTAGES.—Erection of four pairs of cottages at Kemerton, for the Tewkesbury Rural District Council. Architects, 38, Foregate-street, Worcester.

APRIL 6.—**Glasgow.**—ROOF.—Renewal of the roof of the goods shed at Eglinton-street Goods Station, Glasgow. Committee's Engineer, Buchanan-street Station, Glasgow. Deposit £2 2s.

# BUILDING TRADE WAGES IN SCOTLAND.*

**THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—**

| | Masons. | Bricklayers. | Carpenters, Joiners. | Plasterers. | Slaters. | Plumbers. | Painters. | Masons | Bricklayers' Labourers | Plasterers |
|---|---|---|---|---|---|---|---|---|---|---|
| Aberdeen | 1/10½ | 1/10½ | 1/9 | 1/9 | 1/9 | 1/9 | 1/7 | 1/5½ to 1/6½ | | |
| Airdrie | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | — | 1/7½ | | |
| Alexandria | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | — | 1/7½ | | |
| Arbroath | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/5½ | | |
| Ayr | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 1/9 | 1/5½ to 1/6½ | | |
| Bathgate | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 1/9 | 1/5½ to 1/6½ | | |
| †Blairgowrie | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | — | — | | |
| Bo'ness | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/- | 1/8 | | |
| Coatbridge | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | — | 1/7½ | | |
| Dumbarton | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 1/9 | 1/7½ | | |
| Dumfries | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/11½ | 1/8 | 1/4½ | 1/4½ | 1/5½ |
| Dundee | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 1/9 | 1/7 | | |
| Dunfermline | 2/0½ | 2/0½ | 2/0 | 2/0 | 2/0½ | 2/0½ | — | 1/7½ | | |
| Duns | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/0 | | |
| Edinburgh | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | — | 1/7½ | | |
| Falkirk | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | — | 1/7½ | | |
| Fort William | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/10 | 1/2½ | | |
| Galashiels | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | 1/11½ | — | — | | |
| Glasgow | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/1 | 1/7½ | | |
| Greenock | 2/0½ | 2/0½ | 2/0 | 2/0 | 2/0½ | 2/0 | 1/9 | 1/4½ to 1/7½ | | |
| Hamilton | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 1/9 | 1/7½ | | |
| Hawick | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/10½ | 1/8 | 1/3½ | | |
| Helensburgh | 2/0½ | 2/0½ | 2/0 | 2/0½ | 2/0½ | 2/0 | 1/9 | 1/7½ | | |
| ‡Inverness | 1/11½ | — | ‡ | 1/7 | 1/6½ | 1/9 | 1/6 | 1/0 to 1/3 | | |
| Kilmarnock | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/1 | 1/7 | | |
| Kirkcaldy | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | — | 1/6½ | | |
| Kirkwall | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | — | 1/2 | | |
| Lanark | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | — | 1/7 | | |
| Motherwell | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | — | 1/7½ | | |
| Perth | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 1/9 | 1/6½ | | |
| Stirling | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 1/9 | 1/7 | | |
| Stirlingshire (Eastern District) | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 2/0 | 1/9 | 1/7 | | |
| Wishaw | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | 2/0½ | — | 1/7½ | | |

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 423. † For housing work only, for other work, Masons 1/8, Painters 1/7, Labourers 1/- to 1/4. ‡ Masons and Carpenters on strike. § Under unemployment relief scheme, 11d.

✱APRIL 19.—**Bournemouth.**—COTTAGES, &C.—Erection of eight pairs of cottages, piggeries, &c., at Muccleshell. Mr. A. L. Roberts, County Architect, The Castle Winchester. Deposit £1 1s.

NO DATE.—**Senghenydd.**—IRON BUILDING.—For erection of galvanised iron building for use as church hall. Mr. R. S. Evans, 10, Commercial-street, Senghenydd.

NO DATE.—**Wigton.**—FARM BUILDINGS.—Erection of farm buildings at the Mains Farm, Wigton. Messrs. John J. Davison, Architect, 6, King-street, Wigton.

## FURNITURE, MATERIALS, etc.

MARCH 18.—**Burnley.**—MATERIALS.—For supply of road and other materials for one year, for the T.C. Mr. G. H. Pickles, Borough Engineer, Burnley.

MARCH 18.—**Colchester.**—MATERIALS.—Supply of building and other materials to the Severalls Mental Hospital. Mr. R. Overend, Clerk, Severalls Hospital, Colchester.

MARCH 18.—**East Retford.**—MATERIALS.—Supply to the R.D.C. of broken slag, granite, slag screenings and tar. Mr. John Turrill, Surveyor, 31, Market-place, Retford.

MARCH 18.—**Egypt.**—STORES.—Supply of stores to the Ministry of Interior, Egypt. Department of Overseas Trade, 35, Old Queen-street, S.W.

MARCH 18.—**Hunslet.**—ROAD MATERIALS.—For supply of road materials for one year, for R.D.C. Mr. W. B. Pindar, Clerk, Leek-street, Hunslet, Leeds.

MARCH 18.—**Kiveton Park.**—MATERIALS.—Supply to the R.D.C. of broken slag, granite and tar macadam. Mr. F. Hewitt, Surveyor, Council Offices, Kiveton Park, near Sheffield.

MARCH 18.—**Manchester.**—MATERIALS.—Supply of lime, tools, &c., to the Rivers Dept. Secretary of the Rivers Department, Town Hall, Manchester.

MARCH 18.—**Milnrow.**—MATERIALS.—Supply of road and other materials, to the U.D.C. Mr. A. S. Whipp, Surveyor, Council Offices, Milnrow.

MARCH 20.—**Cardiff.**—STORES.—For stores, for the Waterworks Department of the T.C. Mr. C. H. Priestley, Waterworks Engineer, City Hall, Cardiff.

MARCH 20.—**Edmonton.**—MATERIALS.—Supply of road and other materials to the U.D.C. Engineer, Town Hall, Edmonton.

MARCH 20.—**Hayes.**—TAR.—For supply of 12,000 gallons of refined tar, for the U.D.C. Mr. D. C. Fidler, Surveyor, Council Offices, Hayes, Middlesex.

MARCH 20.—**Horbury.**—MATERIALS.—Supply of road materials, &c., to the U.D.C. Mr. W. Sugars, Surveyor, Town Hall, Horbury.

MARCH 21.—**Burnley.**—MATERALS.—For supply of road and other materials for one year, for the R.D.C. Mr. H. Pritchard, Surveyor, 18, Nicholas-street, Burnley.

MARCH 21.—**Eastbourne.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. W. Walker, Surveyor, 3, Bedford-grove, Eastbourne.

MARCH 21.—**Gosport.**—ROAD MATERIALS.—For the supply of road and other materials for one year, for the U.D.C. Surveyor, Town Hall, Gosport.

MARCH 21.—**Great Yarmouth.**—WOOD BLOCKS.—Supply to the T.C. of 4,000 creosoted fir paving blocks. Mr. J. W. Cockerill, Borough Surveyor, Great Yarmouth.

MARCH 21.—**Hull.**—ROAD MATERIALS.—For the supply of road and other materials for 6 or 12 months, for the T.C. Mr. F. W. Bricknell, Engineer, Guildhall, Hull.

MARCH 21.—**Hunslet.**—MATERIALS.—For small bricklayer's, joiner's, plumber's, and ironmonger's work for three months, for the Board of Guardians. Mr. Fred. W. Mee, Clerk, Union Offices, Hunslet.

MARCH 21.—**Maestag.**—ROAD MATERIALS.—For the supply of road and other materials for 6 months, for the U.D.C. Mr. J. Harper, Surveyor, Council Offices, Talbot-street, Maestag.

MARCH 21.—**Sheerness.**—TARMACADAM.—For supply of tarmacadam, for the U.D.C. Surveyor, Council Offices, Sheerness.

MARCH 22.—**Aylesbury.**—ROAD MATERIALS.—Supply to the Bucks C.C. of granite, tarred macadam, and cold blast furnace slag. Mr. E. Winfield, County Surveyor, County Hall, Aylesbury.

MARCH 22.—**Cranbrook.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. E. Clarke, Clerk, Cranbrook.

MARCH 22.—**Ramsgate.**—ROAD MATERIALS.—Supply of granite and flints to the Isle of Thanet R.D.C. Mr. G. L. Butterworth, Surveyor, Birchington.

MARCH 22.—**Repton.**—ROAD MATERIALS.—For supply of road materials for six months, for the R.D.C. Mr. H. S. Askew, Clerk, Union Offices, Burton-on-Trent.

MARCH 22.—**Shardlow.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. J. S. Wooddisse, Surveyor, Aston-on-Trent, Derby.

MARCH 22.—**Strood.**—MATERIALS.—For supply of road and other materials for three months, for the R.D.C. Mr. L. Randerson, Meopham, near Gravesend.

MARCH 23.—**Gravesend.**—ROAD MATERIALS.—For supply of road materials, for the T.C. Mr. F. T. Grant, Borough Surveyor, Gravesend.

MARCH 23.—**Northamptonshire.**—ROAD MATERIALS.—For the supply of road materials, also tar spraying at various parishes, for the C.C. Mr. C. J. Morris, Surveyor, County Hall, Northampton.

MARCH 23.—**West Ham.**—BUILDING MATERIALS.—For supply of building and other materials for 3 months, for the B.G. Mr. T. Smith, Clerk, Union-road, E. 11.

MARCH 25.—**Waterloo-with-Seaforth.**—MATERIALS.—Supply of materials, stores, &c., to the U.D.C. Mr. F. Spencer Yates, Surveyor, Town Hall, Waterloo.

MARCH 27.—**Cuckfield.**—GRANITE.—Supply of granite and tar to the U.D.C. Mr. A. Croucher, Surveyor, London-lane, Cuckfield.

MARCH 27.—**Hemsworth.**—ROAD MATERIALS.—For supply of road materials for one year, for the R.D.C. Mr. W. T. Tynam, Surveyor, Hemsworth.

MARCH 27.—**Normanton.**—MATERIALS.—For road and other materials, for the U.D.C. Surveyor, Council Offices, Normanton.

MARCH 28.—**Gt. Crosby.**—MATERIALS.—Supply of road and other materials, to the U.D.C. Mr. J. A. Wright, Surveyor, Council Offices, Coronation-road, Great Crosby.

MARCH 28.—**Malling.**—MATERIALS.—Supply of road materials to the R.D.C. Mr. H. Vickery, Surveyor, West Malling.

MARCH 28.—**Uppingham.**—GRANITE.—Supply of 3,500 tons of granite and 1,000 tons of slag, for the R.D.C. Mr. Fredk. Oakley, Clerk, High-street, Uppingham.

MARCH 29.—**Twickenham.**—TAR.—Supply of 30,000 gallons of distilled tar, for the U.D.C. Mr. F. W. Pearce, Surveyor, Twickenham.

MARCH 29.—**Windlesham.**—TAR.—Supply of 19,000 gallons of tar to the U.D.C. Mr. J. E. Weeks, Surveyor, Council Offices, Bagshot.

MARCH 31.—**Hampton Wick.**—ROAD MATERIALS.—For supply of road materials, for the U.D.C. Mr. H. Fawssett, Clerk, Council Offices, High-street, Hampton Wick.

APRIL 1.—**Brentford.**—ROAD MATERIAL.—Supply of ballast, cement, &c., to the U.D.C. Mr. J. W. Westlake, Surveyor, Boston-road, Brentford.

## ENGINEERING, IRON AND STEEL.

MARCH 18.—**Scunthorpe.**—WATERWORKS.—For: (1) Buildings, for extension of pump house, new motor house, fencing, &c.; (2) Construction of covered reinforced concrete reservoir, 1,000,000 gallons capacity, with all inlets, outlets and connecting pipes; (3) Supply and delivery of approximately 1,500 tons of 4 in., 6 in., 8 in., 9 in., 12 in. and 15 in. cast iron mains, &c.; (4) hauling and laying out of mains and castings; (5) laying 9 miles of mains, for the U.D.C. Mr. A. M. Cobban, Engineer, Council Offices, Scunthorpe. Deposit £2 2s. [The sending-in date for this contract was incorrectly given as March 22 in our last issue.]

MARCH 20.—**Birmingham.**—HEATING.—Installation of new heating systems in two pavilions of the Dudley-road Hospital, for the Board of Guardians. Mr. James Curtis, Clerk, Edmund-street, Birmingham. Deposit £5 5s.

MARCH 20.—**Burnley.**—GASHOLDER TANK.—For the excavation and construction of a gasholder tank at Old Hall, for the T.C. Mr. J. P. Leather, Engineer, Gasworks, Burnley. Charge 10s. 6d.

MARCH 20.—**Calcutta.**—TAR SPRAYING MACHINE.—Supply to the Municipal Council of tar-spraying machine of 600 gall. capacity to be drawn by steam roller. Deputy Chairman, 5, Corporation-street, Calcutta.

MARCH 20.—**Dublin.**—GIRDERS, &C.—Supply to the Midland Great Western Railway of Ireland Company of plate girders and steel trough decking. Mr. P. A. Hay, Secretary, Broadstone Terminus, Dublin.

MARCH 20.—**Dublin.**—RAILS.—For supply of rails, &c., for the G.N.R. (Ireland) Co. Mr. J. B. Stephens, Secretary, Amiens-street Station, Dublin.

MARCH 20.—**Edinburgh.**—ELECTRICAL PLANT.—For auxiliary plant and pipework for specification No. 14 at Portobello Station, for T.C. Sir Alexander B. W. Kennedy, 17, Victoria-street, Westminster, S.W.1. Deposit £2 2s.

MARCH 20.—**Leicester.**—BOILERS, &C.—(1) Lancashire boilers; (2) mechanical stokers and coal conveying plant; (3) setting of the boilers, for sewage station, for the T.C. Mr. E. George Mawbey, City Engineer, Town Hall, Leicester. Deposit £2.

MARCH 20.—**Margate.**—MACADAM-MAKING PLANT.—Supply of steam-driven tar macadam-making plant to the T.C. Mr. E. A. Borg, Borough Engineer, 13, Grosvenor-place, Margate.

MARCH 20.—**St. Marylebone.**—CONVEYORS.—For supply of conveyors for ashes and breeze, for the B.C. Highways Engineer, Town Hall, Marylebone-road, N.W.1.

MARCH 21.—**Criccieth.**—GROYNE.—For the construction of a groyne on the seashore in front of Marine Terrace. Mr. W. George, Clerk, Town Hall, Criccieth.

MARCH 21.—**Wellingborough.**—CONCRETE BRIDGE.—For construction of a reinforced concrete bridge, indented bar system, over the "Swanspool" Brook. Mr. R. S. Henshaw, Engineer, Council Offices, "Swanspool," Wellingborough. Deposit £2 2s.

MARCH 22.—**Dundee.**—WATERWORKS.—For (1) reinforced concrete piling and foundation work for circulating water pipe line, (2) supply and laying of about 258 yds. of 54 ins. c.i. pipe and 29 yds. of 30 ins. c.i. pipe, &c., for the T.C. Mr. H. Richardson, Engineer, Electricity Department, Dundee. Deposit, £1 1s.

MARCH 22.—**New Zealand.**—STEEL REINFORCEMENTS.—Supply to the Wellington Harbour Board of (1) 206 tons of mild steel rods; (2) 4 tons of mild steel flat bars; (3) 5 tons of wrought-iron rods; (4) 19 tons of soft steel wire. Department of Overseas Trade (Room 47), 35, Old Queen-street, S.W. 1.

MARCH 22.—**Rugby.**—FIRE ALARMS.—Installation of fire alarms, &c., in the district, for the U.D.C. Mr. J. N. Sharp, surveyor, Benn Buildings, High-street, Rugby.

MARCH 23.—**Camberwell.**—STEAM BOILER.—For supply of a water-tube steam boiler, also 2 steam calorifiers at the Public Baths, Church-street, for the B.C. Mr. F. J. Slater, Engineer, Town Hall, Camberwell, S.E.5.

MARCH 23.—**West Wickham.**—BOILER, &C.—Supply and fixing of a Lancashire boiler, superheater, piping and feed pumps, at West Wickham, Kent, for the Metropolitan Water Board. Chief Engineer's Department, 173, Rosebery-avenue, E.C. 1. Deposit, £1 1s.

MARCH 24.—**Atherstone.**—PIPES.—Supply of 1,300 tons of cast iron pipes and specials to the R.D.C. Mr. H. Lapworth and Mr. H. J. Coleby, joint engineers, 102, Long-street, Atherstone.

MARCH 24.—**Swansea.**—REPAIRS TO QUAY.—For repair of ferro-concrete quays in King's Dock, for the Harbour Trust. Mr. A. O. Schenk, Engineer, Harbour Offices, Swansea.

MARCH 25.—**Manchester.**—VALVES.—Supply of 6 in. discharge valves, manhole doors, ladders, joists, and other ironwork, to the T.C. Secretary, Waterworks Offices, Town Hall, Manchester. Deposit £3 3s.

MARCH 27.—**Leeds.**—FOUNDATIONS.—Construction of 280 No. reinforced concrete cylinder sections for foundation units. Mr. G. A. Hart, Sewerage Engineer, 8, Park-square, Leeds. Deposit £2.

MARCH 29.—**Australia.**—BORING MACHINE.—Supply of one double spindle boring machine, including tools, gears, and accessories, for Newport workshops, for the Victoria Railway Commissioners. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

MARCH 29.—**London.**—FIRE-ESCAPE BRIDGES.—For the erection of steel fire-escape bridges at Tooting Bec Mental Hospital, for the Metropolitan Asylums Board. Mr. T. Cooper, Engineer, Embankment, E.C.4. Deposit £1.

✱MARCH 29.—**Tooting, S.W.17.**—STEELWORK.—Erecting only steel fire escape bridges and incidental works in connection at Tooting Bec Mental Hospital extension, Church-lane, for the Metropolitan Asylums Board. Office of the Board, Embankment, E.C.4. Deposit £1.

APRIL 3.—**Cheadle and Gatley.**—MAINS, &C.—For extra high pressure, medium pressure, and low pressure mains and street lighting accessories. Mr. C. H. Wordingham, Engineer, 7, Victoria-street, S.W.1. Deposit £3 3s.

APRIL 3.—**Shoreham-by-Sea.**—BRIDGE.—Reconstruction of Norfolk Bridge, over River Adur, at Shoreham-by-Sea, for the West Sussex C.C. Messrs. Howard Humphreys & Sons, engineers, 28, Victoria-street, S.W.1. Deposit £10 10s.

APRIL 4.—**Shoeburyness.**—TOWER SCRUBBER.—For supply and erection of a tower scrubber, for the U.D.C. Engineer, Gasworks, Shoeburyness.

APRIL 10.—**London.**—CONVEYOR.—Supply and erection of (*a*) an ash conveyor of the water immersed, drag-link type; (*b*) an ash hopper. Clerk, County Hall, Spring-gardens, S.W. Deposit £2.

APRIL 10.—**Siam.**—RAILWAY ACCESSORIES.—Supply of accessories for goods rolling stock, to the Siam State Railways. Messrs C. P. Sandberg, 40, Grosvenor-gardens, London, S.W.1. Charge £2.

MAY 7.—**Rochdale.**—SULPHATE OF AMMONIA PLANT.—Supply and erection of sulphate of ammonia plant, for the Gas Committee. Chairman, Gas Committee, Gas Works, Rochdale.

JUNE 19.—**Argentina.**—BRIDGES.—Supply and erection of suspension bridges for local authorities. Dept. of Overseas Trade, 35, Old Queen-street, S.W.

OCTOBER 31.—**New South Wales.**—BRIDGE.—Construction of the superstructure and substructure of a cantilever bridge across Sydney Harbour from Dawes Point to Milson's Point, for the Government of New South Wales. Agent-General for New South Wales, Australia House, Strand, London, W.C.2.

NO DATE.—**Batley.**—ELECTRIC LIGHTING.—Installation of electric lighting apparatus, for the Batley Co-operative Society, Ltd. Secretary, Batley.

NO DATE.—**Enniskillen.**—STEEL RAILS.—Supply of 240 tons of steel rails to the Sligo, Leitrim, and Northern Counties Railway Co. Secretary, S.L. and N.C. Railway, Enniskillen.

NO DATE.—**Portobello.**—ELECTRICAL INSTALLATION. Installation of electric light in Windsor-place U.F. Church, Portobello. Mr. C. B. Davidson, 14, Park-avenue, Portobello.

## ROAD, SANITARY, AND WATER WORKS.

MARCH 18.—**Stafford.**—ROADS.—Making up Alliance-street, Izaak Walton-street, and a portion of Co-Operative-street, for the T.C. Mr. W. Plant, Borough Engineer, Stafford. Deposit £1 1s.

MARCH 20.—**Monifieth.**—ROADS, &C.—Reconstruction of Maule-street and part of Ferry-road, and construction of a sewer in Maule-street, for the T.C. Mr. C. A. Mackenzie, Burgh Surveyor, Monifieth.

MARCH 20.—**Ormskirk.**—ROADS.—Construction of a by-pass road at Ormskirk, for the Lancashire C.C. Mr. W. H. Schofield, County Surveyor, Preston.

MARCH 20.—**Preston.**—ROADS.—Diversion, widening, and improving of a length of the Liverpool-Manchester main road, for the Lancashire C.C. Mr. W. H. Schofield, County Surveyor, Preston.

MARCH 21.—**Failsworth.**—EXCAVATIONS.—For excavation and foundation works required in the construction of footpaths in connection with the proposed recreation ground off Roman-road, for the U.D.C. Mr. J. W. E. Brown, Surveyor, Town Hall, Failsworth.

MARCH 21.—**Maldon.**—SURFACE TARRING.—For surface tarring 50,000 sq. yds. of roads, for the T.C. Mr. T. R. Swales, Engineer, Municipal Offices, Maldon.

MARCH 22.—**Ayr.**—WATER MAIN.—Supply of iron main and for two to three miles of track cutting and pipe laying, for the C.C. Mr. Gilbert Thomson, 164, Bath-street, Glasgow. Deposit £2 2s.

MARCH 22.—**Bristol.**—CULVERT, &C.—Construction of a 48 in. diameter culvert and circulating water discharge pits at the Feeder-road power station, of the T.C. Mr. H. Faraday Proctor, Chief Engineer, The Exchange, Corn-street, Bristol. Deposit £2 2s.

MARCH 22.—**Manchester.**—DRAINS, &C.—Drains, boundary walling, and preparation of playground areas at Old Hall-drive Municipal School, Gorton, for the T.C. Education Offices, Deansgate, Manchester. Deposit £1 1s.

MARCH 23.—**Edinburgh.**—ROADS, &C.—Construction of roads and sewers, Wardie Housing area, for the T.C. Burgh Engineer, 1, Parliament-square, Edinburgh.

MARCH 23.—**Wandsworth.**—RE-FORMING ROADS.—For re-forming roads at St. John's Hospital, for the B.G. Mr. F. J. Curtis, Clerk, Union Offices, Wandsworth, S.W.18.

MARCH 23.—**Worthing.**—PAVING.—Providing and laying wood paving in Warwick-street, &c., for the T.C. Mr. F. Roberts, Borough Surveyor, Worthing.

MARCH 27.—**Loughborough.**—SEWERAGE.—Laying of reinforced concrete and pipe sewers, for the T.C. Mr. A. H. Walker, Borough Surveyor, Loughborough. Deposit £3 3s.

MARCH 27. — **Ruislip-Northwood.**—SEWAGE.—For sewage disposal works, &c., for the U.D.C. Messrs. H. Humphreys & Sons, 28, Victoria-street, Westminster. Deposit £3 3s.

MARCH 30.—**Tavistock.**—SEWERAGE WORKS.—Construction of Lifton sewerage and water supply, for the R.D.C. Mr. A. Kenneth G. Johnstone, Clerk, Town Hall-chambers, Tavistock.

MARCH 31.—**Neath Valley.**—LEVELLING, &C.—Filling-in and levelling of site for colliery sidings in the Neath Valley. Messrs. Cory Bros. & Co., Ltd., Glyncastle Colliery, Resolven.

APRIL 4.—**Failsworth.**—CULVERT.—Construction of about 356 lineal feet of brick and concrete culvert. 8 ft. 6 in. diameter, for the U.D.C. Messrs. Charles J. Lomax & Son, Engineers, 37, Cross-street, Manchester. Deposit £1 1s.

APRIL 10.—**London.**—WATERWORKS.—For laying 8,400 yards of cast iron water main at Peckham Rye, for the Metropolitan Water Board. Mr. H. E. Stilgoe, Chief Engineer, Offices, New River Head, 173, Rosebery-Avenue, Clerkenwell, E.C.1. Deposit £20.

## Competitions.

*(See Competition News, page 402.)*

## Auction Sales, Tenders, etc.

✱MARCH 21.—**Broxbourne, Herts.**—Messrs. J. T. Skelding & Co. will sell, without reserve, in bankruptcy, *re* W. H. Dawes, by order of the Trustee, E. H. Hawkins, Esq., F.S.A.A., on land in Old Nazeing-road, Broxbourne, the remaining stock, plant, and effects of a builder and contractor, including new doors. Auctioneers, 48, Gresham-street, London, E.C.2.

MARCH 22.—**Shoreham-by-Sea.**—Messrs. Harris & Gillow will sell by direction of the Disposal Board, camp buildings at No. 13, Battalion Lines, Shoreham Camp. Auctioneers, 21, North Audley-street, W.1, and Shoreham-by-Sea, Sussex.

✱MARCH 22.—**Stoke Newington, London, N.**—Messrs. Veryard & Yates will sell, without reserve, at 109, Stoke Newington-road, N., building plant and material. Auctioneers, 365, Norwood-road, S.E.27.

✱APRIL 5.—**London, E.C.**—Messrs. Stanley Parkes & Brown will sell at the London Auction Mart, 155, Queen Victoria-street, E.C., the freehold building estate, known as "Hill House," Palmers Green, N., together with property thereon, consisting of dwelling-house, with outbuildings, grounds about 4 acres. Auctioneers, Alderman's Hill, Palmers Green.

APRIL 19.—**Bournemouth.**—Messrs. Rawlence & Squarey will sell at the Havergal Hall, Post Office-road, Bournemouth, freehold marine residential property, known as "Wentworth Lodge." Auctioneers, Salisbury, 3A, Dean's-yard Westminster, S.W.1.

✱APRIL 19.—**Three Bridges, Sussex.**—Messrs. Knight, Frank & Rutley will sell by auction a freehold woodland building estate, known as Park Wood, Worth, area over 31 acres, at the "Fox Hotel," at 3 p.m. Auctioneers, 20, Hanover-square, W.1.

## Public Appointment.

✱MARCH 28.—**Singapore.**—Architect required, between 30 & 40 years of age, and of sound constitution, by the Municipal Commissioners of the Town of Singapore. Messrs. C. C. Lindsay & Peirce, M.M.Inst.C.E., 180, Hope Street, Glasgow.

### New Building at Durban.

H.M. Senior Trade Commissioner at Johannesburg has drawn the attention of the Department of Overseas Trade to a report appearing in the Johannesburg Press concerning the proposed demolition of the present, and the construction of a new, building on a site in West-street, Durban. The report states that Messrs. Norman Anstey & Co., who have acquired the site in question which is in the business part of the town, intend to have the present building demolished and to erect in its place a new four-storied building. It is expected that building operations will commence shortly and that the work will be completed before the end of the year. The Trade Commissioner states that he is informed that Mr. Anstey is now considering the plans, and suggests that firms specialising in the design of departmental stores may care to get into touch with Messrs. Norman Anstey & Co., Anstey's-buildings, Kerk-street, Johannesburg.

### Concrete Roads in London Docks.

A reinforced concrete foundation road is now being constructed for the Port of London Authority in the Royal Albert Dock, by Messrs. G. J. Anderson, of Poplar, and a similar road in the London Dock, by Messrs. W. Jones & Sons. The reinforcement used in both cases is B.R.C. Fabric No. 9.

## AUCTION LAW.

AT the College of Estate Management, Mr. Graham Mould, barrister-at-law, recently gave a series of three lectures on auction law likely to prove of value to students and practitioners. In his opening lecture he gave an exposition of the law as it applies to the auctioneer's authority and conduct on the rostrum. He emphasised the desirability, from the vendor's point of view, of clear, written instructions in appointing the auctioneer, since, although a verbal appointment would be legally sufficient, the auctioneer would be justified in acting upon any reasonable interpretation thereof. The auctioneer was at once the agent of the vendor and the purchaser, and some interesting remarks were made upon the auctioneer's duty of signing the memoranda of sale as agent for the highest bidder should the latter change his mind and refuse to append his signature. The lecturer quoted two well-known law cases bearing on the point, and gave interesting details of their inner history. The auctioneer's liability in cases of negligence, his need for care and veracity in the particulars of sale, and the care needed in announcing variations from the printed particulars were other parts of professional practice discussed, and the lecture closed with a reference to the Sale by Auction Act, 1867.

At the opening of his second lecture, Mr. Graham Mould quoted Section 4 of the statute verbatim, and said a valid contract for the sale of land or any interest therein must name the parties, define the subject matter, state the price or consideration, and give evidence of the consent of the parties. The contract could be made between the agents of vendor and purchaser respectively, without disclosing the name of either principal, though it was far better from the agent's point of view to disclose the principal's name. An agent who signed "A. B." for "C. D." was leaving no loophole for personal liability. A surprising laxness was tolerated by the courts in the description of land and interests therein, and such description as "24 acres of land belonging to Richard Smith in the parish of B," though most inadvisable, had been held not to make the contract invalid provided sufficient collateral evidence could be called to identify and define the land.

In the concluding lecture, after reminding his hearers of the auctioneer's implied authority to sign the memorandum of sale on behalf of both vendor and purchaser, the lecturer gave, in tabular form, a series of things for which the auctioneer has no implied authority. A second list followed of acts which constituted the auctioneer's "duty," including his duty to insist upon the payment of a deposit of the "customary" amount, of which a recent case in the courts has shown the desirability. The auctioneer's right to his commission where he has carried out his "duty" was also discussed, including his right to take subsidiary commissions or discounts from printers, stationers and others whom he may employ on his principal's behalf. His right in the latter case was shown to be subject to his disclosure of the fact—secret commissions being considered by the courts as a "breach of duty."

## LAW REPORT.

### A Building Contract.

IN the King's Bench Division, before Mr. Justice Sankey, the case was heard of Tredegars, Ltd., *v.* The Hammersmith Distillery Co., Ltd., in which the cancellation of a building contract formed the subject of the action.

Mr. Colam, K.C., for the plaintiffs, said his clients, who were builders and contractors, were asked to make an estimate for certain work according to a plan submitted by the defendants. Plaintiffs' tender was accepted, but after the work had been commenced the District Surveyor, after examining the proposals, raised certain objections. These were met by the defendants' representative by instructions to the plaintiffs to submit another drawing which would meet the requirements of the local authority. It was pointed out that the cost would be increased if the District Surveyor's suggestions were embodied in the substituted plan. After the second drawing had been prepared and submitted to the defendants the contract was cancelled by them. In the circumstances, the plaintiffs claimed loss of profit amounting to about £154.

For the defence it was contended that it was an implied term of the contract that neither party should be bound if it were found impossible to construct the building in accordance with the specifications.

Evidence was called for the plaintiffs to the effect that it was usual in such cases for the architect preparing the plans to secure the consent of the local authority first, and for this reason the plaintiffs had not applied themselves.

For the defendants Mr. Horace Farquharson, architect, said he had prepared the original rough sketch. In his view the builders, seeing it was only a rough plan, should have examined the site themselves before making their tender. Had that been done the nature of the soil would have led them to interview the District Surveyor and ascertain his views.

Mr. Justice Sankey, in giving judgment, said he thoughtt the plaintiffs were entitled to assume that the consent of the local authority had already been secured. The difficulty arose because the defendants had prepared and submitted a substantial plan from the rough sketch of the architect. In his opinion the plaintiffs were entitled to recover, and he gave judgment for them for the amount claimed, with costs.

### West Cumberland Building Trades' Association.

At the annual meeting of the West Cumberland Building Trades' Association, held at Workington, Mr. J. Walker (Whitehaven) was elected President, in succession to Mr. E. Barrow, who intimated his withdrawal from active work of the Association owing to ill-health. Other officials appointed were: Vice-presidents, Mr. Marshall (Maryport), and Mr. Sanderson (Workington); auditors, Mr. L. Ferguson, and Mr. E. Barrow; representative of the Executive of the North-Western Federation, Mr. H. Sanderson. The Committee was elected as follows: — Workington: Messrs. Douglas, Sanderson, Palmer, Wilkinson, and L. Ferguson; Whitehaven: Messrs. Moorhouse, H. Jackson (jun.), Walker, and Shaw; Maryport: Messrs. Ferguson, Gordon, and Marshall; Cleator: Messrs. Bell and Martindale; Harrington: Mr. F. Huish.

### The Cost of Building.

Figures were given at the meeting of the Coventry City Council last week respecting the cost of the enlargement of Frederick Bird School. The Chairman of the Education Committee stated that in 1914 the work could have been done for £4,697, but in 1919, when they were obliged to build on account of the want of accommodation, the tender obtained amounted to £11,993. Wages and materials subsequently went up still further, until the cost came out at £15,574. The excess was chiefly in wages, which were responsible for £1,782 2s. 10d.; and £1,382 was due to rises in material.

### The Fire-Resistance of Concrete.

The British Fire Prevention Committee has published one of their familiar "Red Books" (No. 258) dealing with "The Fire Resistance of Concrete and Reinforced Concrete," comprising a synopsis of the tests conducted by the special commission formed by the British Fire Prevention Committee, and carried out at the Committee's Testing Station, from October, 1917, to September, 1919. This book, which is of considerable technical interest, is a synopsis of the first series of full-size tests with floors of concrete and reinforced concrete, which were carried out by this Committee on behalf of the Department of Scientific and Industrial Research in order to ascertain the fire-resisting properties of the materials. Copies are obtainable from the offices of the Committee, 8, Waterloo-place, S.W., price 5s.

# PRICES CURRENT OF MATERIALS.*

**[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. Since our last issue several p ices have been revised.—Ed.]**

## BRICKS, &c.

| Per 1,000 Alongside, in River Thames up to London Bridge. | £ s. d. |
|---|---|
| Best Stocks | 4 13 0 |

Per 1000, Delivered at London Goods Stations.

| Fletton, at | £ s. d. | | £ s. d. |
|---|---|---|---|
| King's Cross | 3 5 0 | Best Blue Pressed Staffs. | 10 11 6 |
| Do. grooved for plaster | 3 7 0 | Do. Bullnose .. | 11 1 6 |
| Do. Bullnose .. | 4 0 0 | Blue Wire Cuts | 8 11 6 |

Best Stourbridge Fire bricks:—

| | | | |
|---|---|---|---|
| 2½ in. .. .. | 11 3 0 | 3 in. .. .. | 13 2 0 |

GLAZED BRICKS—

| | | | |
|---|---|---|---|
| Best White, Ivory, and Salt Glazed Stretchers .. | 26 0 0 | D'ble Str'tch'rs | 34 10 0 |
| | | D'ble Headers | 31 10 0 |
| | | One Side and one End | 35 10 0 |
| Headers | 25 10 0 | Two Sides and one End | 36 10 0 |
| Quoins, Bullnose and 4½in. Flats | 32 10 0 | Splays and Squints | 34 0 0 |

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

| | s. d. | | |
|---|---|---|---|
| Thames Ballast | 14 0 | per yard, | delivered 2 miles radius Paddington. |
| Pit Sand | 17 0 | „ „ | |
| Thames Sand | 19 0 | „ „ | |
| Best Washed Sand | 19 0 | „ „ | |
| ¾ in. Shingle for Ferro-Concrete | 19 0 | „ „ | |
| ¼ in. „ „ | 20 0 | „ „ | |

Per ton delivered in London area in full van loads.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| Best Portland Cement. British Standard Specification Test | 3 10 6 | .. | 3 16 0 |

63/6 alongside at Vauxhall in 80-ton lots.

| | | | |
|---|---|---|---|
| Ferrocrete per ton extra on above | .. | .. | 10 0 |

NOTE.—The sacks are charged at 1s. 9d. each and credited at 1s. 6d. each if returned in good condition within three months, carriage paid.

Best Ground Blue Lias Lime 2 8 0 at rly. depot.
Grey Stone Lime 61s. 0d. per ton delivered in City and Central districts.
Stourbridge Fireclay in s'cks 37s. 8d. per ton at rly. dpt.

## STONE.

| BATH STONE—delivered in railway trucks at | s. d. |
|---|---|
| Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R.. per ft. cube | 3 2½ |
| Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R.. per ft. cube | 3 5½ |
| Do. do. delivered on road wagons at Nine Elms Depot | 3 6½ |
| PORTLAND STONE— | |
| Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L.& S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube | 4 11½ |
| Do. do. delivered on road wagons at above stations, per ft. cube | 5 0½ |
| White basebed, 3d. per ft. cube extra. | |
| NOTE.—½d. ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft. | |
| YORK STONE, BLUE—*Robin Hood Quality.* | |
| Delivered at any Goods Station London. | s. d. |
| 6 in. sawn two sides landings to sizes (under 30 ft. super.) ..... Per Ft. Super | 6 1½ |
| 6 in. rubbed two sides, ditto ..... „ | 6 7½ |
| 3 in. sawn two sides slabs (random sizes) „ | 2 7 |
| 2 in. to 2½ in. sawn one side slabs (random sizes) ..... „ | 1 8 |
| 1½ in. to 2 in. ditto, ditto ..... „ | 1 5 |
| HARD YORK— | |
| Delivered at any Goods Station London. | |
| Scappled random blocks ..... Per. Ft. Cube | 7 6 |
| 6 in. sawn two sides landing to sizes (under 40ft. super.) ..... Per Ft. Super | 6 6 |
| 6 in. rubbed two sides ditto ..... „ | 7 2 |
| 4 in. sawn two sides slabs (random sizes) „ | 3 4 |
| 3 in. ditto, ditto „ | 2 10 |
| 2 in. self-faced random flags .. Per Yard Super | 9 9 |

## WOOD.

### GOOD BUILDING DEAL.

| Inches | £ s. | |
|---|---|---|
| 4 × 11 | 36 0 | per standard |
| 4 × 9 | 35 0 | „ |
| 4 × 8 | 30 0 | „ |
| 4 × 7 | 30 0 | „ |
| 3 × 8 | 30 0 | „ |
| 3 × 7 | 25 0 | „ |
| 2½ × 7 | 25 0 | „ |
| 3 × 6 | 25 0 | „ |
| 3 × 11 | 34 0 | „ |
| 2 × 11 | 32 0 | „ |
| 3 × 9 | 30 0 | „ |
| 2½ × 9 | 30 0 | „ |
| 3 × 4½ | 20 10 | „ |
| 3 × 4 | 20 10 | „ |

### PLANED BOARDS.

| | | |
|---|---|---|
| 1 × 11 | 42 10 | „ |
| 1 × 9 | 37 10 | „ |

### PLAIN EDGE FLOORING.

| Inches | | |
|---|---|---|
| ¾ | 20/- | per square |
| 1 | 22/6 | „ |
| 1 | 25/- | „ |
| 1¼ | 32/6 | „ |
| 1½ | 44/- | „ |

### TONGUED AND GROOVED FLOORING.

| Inches | | |
|---|---|---|
| 1 | 25/- | per square |
| 1¼ | 32/6 | „ |
| 1½ | 44/- | „ |

## WOOD (*Continued*).

### MATCHINGS (BEST).

| Inches | | |
|---|---|---|
| ¾ | 17/6 | per square |
| ¾ | 22/6 | „ |
| 1 | 25/- | „ |

| Inches | BATTENS. | s. d. | |
|---|---|---|---|
| ¾ × 2 | | 3 0 | per 100 ft. |

### SAWN LATHS.

| | | | |
|---|---|---|---|
| Per bundle | | 0 4 | 0 |
| Dry Wainscot Oak, per ft. super, as inch | 0 2 6 | to 0 3 | 0 |
| ¼ in. do. | do. 0 1 10½ | to 0 2 | 6 |
| Dry Mahogany—Honduras, Tabasco, African, per ft. super, as inch | 0 2 3 | to 0 3 | 0 |
| Cuba Mahogany | 0 3 6 | to 0 4 | 0 |
| Teak (Rangoon, Moulmein or Java), per load | 52 10 0 | to 55 0 | 0 |
| American Whitewood planks, per ft. cube | 0 16 0 | to 0 18 | 0 |
| Best Scotch Glue, per cwt. | 7 2 0 | to — | |
| Liquid Glue, per cwt. | 5 3 0 | to 6 10 | 0 |

## SLATES.

1st quality slates from Bangor or Portmadoc in truck load delivered London area. Per 1,000 of 1,200.

| | | £ s. d. |
|---|---|---|
| Best Blue Bangor Slates, | 24 by 12 | 46 10 0 |
| „ „ „ | 22 by 12 | 42 5 0 |
| First quality „ „ | 22 by 11 | 39 0 0 |
| „ „ „ | 20 by 12 | 37 2 6 |
| Best Blue Portmadoc | 20 by 10 | 31 15 0 |
| „ „ | 18 by 10 | 26 5 0 |
| First quality „ | 18 by 9 | 23 2 6 |
| „ „ | 16 by 10 | 22 0 0 |
| „ „ | 16 by 8 | 17 2 6 |

## TILES.

| | Per 1,000 f.o.r. London. £ s. d. |
|---|---|
| Best machine-made tiles from Broseley or Staffordshire district | 7 0 0 |
| Ditto hand-made ditto | 7 15 0 |
| Ornamental ditto | 8 0 0 |
| Hip and valley tiles (per dozen) | 0 12 0 |

## METALS.

| JOISTS, GIRDERS, &c., TO LONDON STATION PER TON— | £ s. d. |
|---|---|
| R. S. Joists, cut and fitted | 14 10 0 |
| Plain Compound Girders | 16 10 0 |
| „ Stanchions | 18 0 0 |
| „ In Roof Work | 22 0 0 |

WROUGHT IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £15 net value delivered direct from Works. 5 per cent. less above gross discounts, carriage forward if sent from London Stocks.)

| | Tubes. (all sizes). | Fittings. Up to 2″. | Fittings. Over 2″. | Flanges. Up to 2″. | Flanges. Over 2″. |
|---|---|---|---|---|---|
| Gas | 47½% | 45 % | 50 % | 60 % | 65 % |
| Water | 41½% | 40 % | 45 % | 55 % | 60 % |
| Steam | 35 % | 35 % | 40 % | 50 % | 55 % |
| Galv'd— | | | | | |
| Gas | 32½% | 37½% | 42½% | 52½% | 57½% |
| Water | 25 % | 32½% | 37½% | 47½% | 52½% |
| Steam | 17½% | 27½% | 32½% | 42½% | 47½% |

L.C.C. COATED SOIL PIPES—London Prices ex works.

| | Pipe. s. d. | | Bends, stock angles. s. d | | Branches, stock angles. s. d. | |
|---|---|---|---|---|---|---|
| 2 in. per yd. in 6fts plain | 3 10½ | .. | 3 4 | .. | 4 0 | |
| 2½ in. „ | 4 8 | .. | 3 8 | .. | 5 0 | |
| 3 in. „ | 5 6½ | .. | 4 0 | .. | 6 0 | |
| 3½ in. „ | 6 1 | .. | 5 0 | .. | 7 0 | |
| 4 in. „ | 6 10½ | .. | 5 8 | .. | 8 0 | |

RAIN-WATER PIPES, &c.

| | Pipe. s. d. | | Bends, stock angles. s. d. | | Branches, stock angles. s. d. | |
|---|---|---|---|---|---|---|
| 2 in. per yd. in 6fts. plain | 2 11 | .. | 2 3½ | .. | 3 1½ | |
| 2½ in. „ „ | 3 3 | .. | 2 8½ | .. | 3 9 | |
| 3 in. „ „ | 3 10½ | .. | 3 4 | .. | 5 0 | |
| 3½ in. „ „ | 4 6½ | .. | 3 11½ | .. | 5 10 | |
| 4 in. „ „ | 5 2 | .. | 4 9½ | .. | 7 0 | |

L.C.C. DRAIN PIPES.—9 ft. lengths. London Prices per yd.: 4 in., 5/9. .. 5 in., 7/2. .. 6 in., 8/9.

| | Per ton in London. £ s. d. | | £ s. d. |
|---|---|---|---|
| IRON— | | | |
| Common Bars | 13 10 0 | to | 14 10 0 |
| Staffordshire Crown Bars — good merchant quality | 14 10 0 | .. | 15 10 0 |
| Mild Steel Bars | 17 10 0 | .. | 18 10 0 |
| Steel Bars. Ferro-Concrete quality, basis price .. | 12 10 0 | .. | 13 10 0 |
| Hoop Iron, basis price .. | 18 0 0 | .. | 19 0 0 |
| „ „ Galvanised .. | 31 0 0 | .. | 33 0 0 |
| Soft Steel Sheets, Black— | | | |
| Ordinary sizes to 20 g. | 16 0 0 | .. | 17 0 0 |
| „ „ „ 24 g. | 17 0 0 | .. | 18 0 0 |
| „ „ „ 26 g. | 18 10 0 | .. | 20 10 0 |
| Sheets Flat Best Soft Steel, C.R. & C.A. quality— | | | |
| Ordinary sizes, 6ft. by 2ft. to 3ft. to 20 g. | 21 0 0 | .. | 22 0 0 |
| Ordinary sizes, 6ft. by 2ft. to 3ft. to 22 g. and 24 g. | 22 0 0 | .. | 23 0 0 |
| Ordinary sizes, 6ft. by 2ft. to 3ft. to 26 g. | 24 0 0 | .. | 26 0 0 |
| Flat and Galvanised Corrugated Sheets— | | | |
| Ordinary sizes, 6 ft. to 9ft. 20 g. | 21 10 0 | .. | 22 10 0 |
| Ordinary sizes, 6ft. to 9ft. 22 g. and 24 g. | 22 0 0 | .. | 23 0 0 |
| Ordinary sizes, 6ft. to 9ft. 26 g. | 24 0 0 | .. | 25 0 0 |

## METALS (*Continued*).

| | Per ton in London. £ s. d. | | £ s. d. |
|---|---|---|---|
| Sheets Galvanised Flat, Best quality— | | | |
| Best Soft Steel Sheets, 6ft. by 2ft. to 3ft. to 20g. and thicker .. | 27 0 0 | .. | 28 0 0 |
| Best Soft Steel Sheets, 22 g. and 24 g. | 28 0 0 | .. | 29 0 0 |
| Best Soft Steel Sheets, 26 g. | 30 0 0 | .. | 31 0 0 |
| Cut Nails, 3in. to 6in. .. (under 3in. usual trade extras.) | 25 0 0 | .. | 26 0 0 |

METAL WINDOWS—Standard sizes suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1/7 to 1/10 per foot super.

## LEAD, &c.

| Delivered in London. | £ s. d. | | |
|---|---|---|---|
| LEAD—Sheet, English, 4 lb. and up | 32 0 0 | .. | — |
| Pipe in coils | 32 10 0 | .. | — |
| Soil Pipe | 35 0 0 | .. | — |
| Compo pipe | 36 0 0 | .. | — |

NOTE—Country delivery, 30s. per ton extra; lots under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

| | | | |
|---|---|---|---|
| Old lead, ex London area, at Mills ..... per ton | 18 0 0 | .. | — |
| Do., ex country, carriage forward ..... per ton | 19 0 0 | .. | — |
| COPPER— | | | |
| Strong Sheet .... per lb. | 0 2 3 | .. | — |
| Thin „ „ | 0 2 4 | .. | — |
| Copper nails .... „ | 0 2 3 | .. | — |
| Copper wire .... „ | 0 2 4 | .. | — |
| TIN—English Ingots „ | 0 1 9 | .. | — |
| SOLDER—Plumbers' „ | 0 0 10 | .. | — |
| Tinmen's „ | 0 1 0 | .. | — |
| Blowpipe „ | 0 1 3 | .. | — |

## GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

| | Per Ft. | | Per Ft. |
|---|---|---|---|
| 15 oz. fourths | 4½d. | 32 oz. fourths | 9½d. |
| „ thirds | 5½d. | „ thirds | 11d. |
| 21 „ fourths | 6½d. | Obscured Sheet, 15 oz. | 7d. |
| „ thirds | 6½d. | 21 „ | 9d. |
| 26 „ fourths | 7½d. | Fluted and Enamelled 15 „ | 11d |
| „ thirds | 8½d. | 21 „ | 1/2 |

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

| | Per Ft. |
|---|---|
| ¼ Rolled plate | 4½d. |
| ⅛ Rough rolled | 6d. |
| ¼ Rough rolled | 6½d. |
| Figured Rolled, Oxford Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish white | 7d. |
| Ditto, tinted | 9½d. |
| Rolled Sheet | 6d. |
| White Rolled Cathedral | 5½d. |
| Tinted do. | 7½d. |

Cast Plate is same price as rough rolled.

## PAINTS, &c.

| | | £ s. d. |
|---|---|---|
| Raw Linseed Oil | in pipes ..... per gallon | 0 3 11 |
| „ „ „ | in barrels .... „ | 0 4 0 |
| „ „ „ | in drums .... „ | 0 4 1 |
| Boiled „ „ | in barrels .... „ | 0 4 4 |
| „ „ | in drums .... „ | 0 4 6 |
| Turpentine | in barrels ..... „ | 0 5 10 |
| „ | in drums (10 gall.) .. „ | 0 6 1 |
| Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.) | | 54 5 0 |
| GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus" and other best brands (in 14 lb. tins) not less than 5 cwt. lots ..... per ton delivered | | 76 0 0 |
| Red Lead, Dry (packages extra) .. per ton | | 37 0 0 |
| Best Linseed Oil Putty ..... per cwt. | | 0 17 0 |
| Filocol ..... per cwt. | | 0 15 6 |
| Size. X D Quality ..... fkn. | | 0 4 6 |

## VARNISHES, &c.

| | | Per gallon. £ s. d. |
|---|---|---|
| Oak Varnish ..... | Outside | 0 15 0 |
| Fine ditto ..... | ditto | 0 17 2 |
| Fine Copal ..... | ditto | 1 1 6 |
| Pale Copal ..... | ditto | 1 2 6 |
| Pale Copal Carriage ..... | ditto | 1 4 6 |
| Best ditto ..... | ditto | 1 14 6 |
| Floor Varnish ..... | Inside | 0 19 0 |
| Fine Pale Paper ..... | ditto | 0 18 0 |
| Fine Copal Cabinet ..... | ditto | 1 2 6 |
| Fine Copal flatting ..... | ditto | 1 0 6 |
| Hard drying Oak ..... | ditto | 0 18 0 |
| Fine Hard drying Oak ..... | ditto | 0 19 0 |
| Fine Copal Varnish ..... | ditto | 1 0 6 |
| Pale ditto ..... | ditto | 1 2 6 |
| Best ditto ..... | ditto | 1 14 6 |
| Best Japan Gold Size ..... | | 0 12 6 |
| Best Black Japan ..... | | 0 18 0 |
| Oak and Mahogany Stain (water) .... .. | | 0 17 6 |
| Brunswick Black ..... | | 0 11 9 |
| Berlin Black ..... | | 0 16 0 |
| Knotting (patent) ..... | | 1 16 0 |
| French and Brush Polish ..... | | 1 8 0 |
| Liquid Dryers in Terebine ..... | | 0 13 6 |
| Cuirass Black Enamel ..... | | 0 7 0 |

* The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

# CURRENT PRICES FOR BUILDING WORK IN LONDON.*

## EXCAVATOR.

| | | s. | d. |
|---|---|---|---|
| Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep .... | per yard cube | 15 | 6 |
| Add if in clay .... | " " | 1 | 9 |
| Add for every additional depth of 6 ft. .... | " " | 1 | 3 |
| Planking and strutting to trenches .... | per foot super | 0 | 7 |
| Do. to sides of excavation, including shoring | " " | 1 | 2 |

## CONCRETOR.

| | | s. | d. |
|---|---|---|---|
| Portland cement concrete in foundation 1 to 6 .. | per yard cube | 43 | 0 |
| Add if in underpinning in short lengths .... | " " | 9 | 6 |
| Add if in floors 6 in. thick .... | " " | 3 | 10 |
| Add if in beams .... | " " | 4 | 9 |
| Add if aggregate 1 : 2 : 4 .... | " " | 12 | 0 |
| Add for hoisting not exceeding 10 ft. beyond the first 10 ft. .... | " " | 4 | 0 |

## BRICKLAYER.

| | | £ | s. | d. |
|---|---|---|---|---|
| Reduced brickwork in lime mortar and Fletton bricks .... | per rod | 39 | 15 | 0 |
| Add if in stocks .... | " | 8 | 10 | 0 |
| Add if in Staffordshire blues .... | " | 25 | 10 | 0 |
| Add if in Portland cement and sand .... | " | 3 | 10 | 0 |

### FACINGS.

| | | s. | d. |
|---|---|---|---|
| Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks .... | per ft. super | 0 | 0 1¼ |

### POINTING.

| | | s. | d. |
|---|---|---|---|
| Neat flat strucks or weathered joint .... | " " | 0 | 0 3 |

### ARCHES.

| | | s. | d. |
|---|---|---|---|
| Extra only to the price of ordinary brickwork :— | | | |
| Fair external in half brick rings .... | " " | 0 | 0 11½ |
| Axed in stocks .... | " " | 0 | 1 11 |
| Rubbed and gauged jointed in putty camber or segmental .... | " " | 0 | 6 8 |

### SUNDRIES.

| | | s. | d. |
|---|---|---|---|
| Damp course in double course of slates breaking joint and bedded in Portland cement .... | " " | 0 | 1 5 |
| Setting ordinary register grates and stoves .... | each | 1 | 1 0 |
| Setting kitchener, including forming flues, &c., with all necessary fire bricks .... | " | 5 | 5 0 |

## ASPHALTER.

| | | s. | d. |
|---|---|---|---|
| Half-inch horizontal damp course .... | per yard sup. | 7 | 6 |
| Three-quarter-inch vertical damp course .... | " " | 11 | 8 |
| ¾ inch on flats in two thicknesses .... | " " | 8 | 6 |
| Angle fillet .... | per foot run | 0 | 3 |
| Skirting and fillet 6 in. high .... | " " | 1 | 4 |

## MASON.

| | | s. | d. |
|---|---|---|---|
| York stone templates fixed .... | per foot cube | 16 | 3 |
| York stone sills fixed .... | " " | 28 | 6 |
| Bath stone and all labour fixed .... | " " | 15 | 0 |
| Portland stone fixed .... | " " | 23 | 0 |

## SLATER.

| | | s. | d. |
|---|---|---|---|
| Welsh 16 in. × 8 in. 3 in. lap, including nails .... | per square | 98 | 0 |
| Do. 20 in. × 10 in. Do. Do. .... | " | 115 | 0 |
| Do. 24 in. × 12 in. Do. Do. .... | " | 117 | 6 |

## CARPENTER AND JOINER.

| | | s. | d. |
|---|---|---|---|
| Fir framed in plates .... | per foot cube | 6 | 9 |
| Do. joists .... | " " | 7 | 9 |
| Do. roofs, floors and partitions .... | " " | 7 | 9 |
| Do. trusses .... | " " | 10 | 0 |

| | | ¾" | 1" | 1¼" | 2" |
|---|---|---|---|---|---|
| Deal rough close boarding .... | per sq. | 42/– | 48/– | 56/– | 85/– |

| | | s. | d. |
|---|---|---|---|
| Flat centering for concrete floor, including struts or hangers .. " .... | | 63 | 0 |
| Do. to beams .... | per ft. sup. .... | 1 | 6 |
| Centres for arches .... | " .... | 2 | 0 |
| Gutter boards and bearers .... | " .... | 1 | 6 |

### FLOORING.

| | | ¾" | 1" | 1¼" | 1½" |
|---|---|---|---|---|---|
| Deal-edges shot .... | per sq. | | 49/– | 58/– | 67/– |
| Do. tongued and grooved .... | " | | 54/– | 65/– | 72/– |
| Do. matchings .... | " | 45/– | 55/– | | |
| Moulded skirting, including backings and grounds .... | per ft. sup. | 1/8 | 2/1 | 2/3 | 2/9 |

### SASHES AND FRAMES.

| | | s. | d. |
|---|---|---|---|
| One-and-a-half moulded sashes or casements .... | per foot super | 1 | 11 |
| Two Do. Do. Do. .... | " " | 2 | 4½ |
| Add for fitting and fixing .... | " " | 0 | 6 |
| Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares double hung, double hung with pulleys, lines and weights; average size .... | " " | 4 | 9 |

### DOORS.

| | | 1¼" | 1¾" | 2" |
|---|---|---|---|---|
| Two-panel square framed .... | per ft. sup. | 2/6 | 2/9 | 2/11 |
| Four-panel Do. .... | " | 2/10 | 3/2 | 3/5 |
| Two panel moulded both sides .... | " | 3/2 | 3/5 | 3/8 |
| Four-panel Do. Do. .... | " | 3/6 | 3/9 | 4/– |

## CARPENTER AND JOINER—continued.

### FRAMES.

| | | s. | d. |
|---|---|---|---|
| Deal wrot moulded and rebated .... | per foot cube | 15 | 6 |

| | | 1" | 1¼" | 1½" |
|---|---|---|---|---|
| Plain deal jamb linings framed .... | per ft. sup. | 1/11 | 2/– | 2/3 |
| Deal shelves and bearers .... | " | 1/8 | 1/10 | 2/1 |
| Add if cross tongued .... | " | 2d. | 2d. | 2d. |

### STAIRCASES.

| | | 1" | 1¼" | 1½" | 2" | 2½" |
|---|---|---|---|---|---|---|
| Deal treads and risers in and including rough brackets .... | | 2/3 | 2/6 | 2/11 | — | — |
| Deal strings wrot on both sides and framed .... | | 1/9 | 2/1 | 2/3 | 2/9 | — |

| | | s. | d. |
|---|---|---|---|
| Housings for steps and risers .... | each | 0 | 11½ |
| Deal balusters, 1 in. × 1¼ in. .... | per ft. run. | 0 | 9 |
| Mahogany handrail; average 3 in. × 3 in. .... | " " | 6 | 0 |
| Add if ramped .... | " " | 11 | 10 |
| Add if wreathed .... | " " | 23 | 9 |

### FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

| | | | |
|---|---|---|---|
| 6 in. barrel bolts .... | 8½d. | Rim locks .... | 2/4½ |
| Sash fasteners .... | 11½d. | Mortice locks .... | 5/3 |
| Casement fasteners .... | 1/5 | Patent spring hinges and letting in to floor and making good .... | 19/– |
| Casement stays .... | 1/2 | | |
| Cupboard locks .... | 1/5 | | |

## FOUNDER AND SMITH.

| | | s. | d. |
|---|---|---|---|
| Rolled steel joists .... | per cwt. | 19 | 0 |
| Plain compound girders .... | " | 22 | 0 |
| Do. stanchions .... | " | 25 | 0 |
| In roof work .... | " | 30 | 0 |

## RAIN-WATER GOODS.

| | | 3" | 4" | 5" | 6" |
|---|---|---|---|---|---|
| Half-round plain rebated joints .. | ft. run | 1/11 | 2/4½ | 3/7 | 4/– |
| Ogee Do. Do. .. | " | 2/4½ | 3/1 | 3/10 | 4/9 |
| Rain-water pipes with ears .... | " | 2/9 | 3/7 | | |
| Extra for shoes and bends .... | each | 4/4 | 5/11 | | |
| Do. stopped ends .... | " | 1/11 | 2/4½ | 3/7 | 4/– |
| Do. nozzles for inlets .... | " | 2/2 | 2/7 | 3/10 | 4/3 |

## PLUMBER.

| | | s. | d. |
|---|---|---|---|
| Milled lead and laying in flashings and gutters .... | per cwt. | 56 | 0 |
| Do. Do. in flats .... | " | 52 | 0 |
| Extra labour and solder in coated cesspools .... | each | 7 | 4 |
| Welt joint .... | per ft. run. | 0 | 6 |
| Soldered seam .... | " " | 1 | 10 |
| Copper nailing .... | " " | 0 | 7 |

| | | ½" | ¾" | 1" | 1½" | 2" | 4" |
|---|---|---|---|---|---|---|---|
| Drawn lead waste | per ft. run | 10d. | 1/6 | 1/9 | 3/1 | 3/10 | |
| Do. service | " | 1/5 | 1/11 | 2/3 | 3/6 | | |
| Do. soil | " | | | | | | 5/2 |
| Bends in lead pipe | each | | | | | 3/3 | 8/2 |
| Soldered stop ends | " | 1/2 | 1/8 | 2/1 | 2/10 | 3/6 | |
| Red lead joints .... | " | 11d. | 1/– | 1/3 | 1/11 | 2/4 | 4/10 |
| Wiped soldered joints | " | 2/10 | 3/6 | 4/– | 4/11 | 6/6 | 9/9 |
| Lead traps and cleaning screws .... | " | | | | 14/7 | 19/6 | |
| Bib cocks and joints .. | " | 6/4 | 9/7 | 15/4 | 41/– | | |
| Stop cocks and joints | " | 15/4 | 17/2 | 25/8 | 64/– | | |

## PLASTERER.

| | | s. | d. |
|---|---|---|---|
| Render, float and set in lime and hair .... | per yard sup. | 3 | 2 |
| Do. Do. Sirapite .... | " " | 3 | 7 |
| Do. Do. Keen's .... | " " | 4 | 9 |
| Add sawn lathing .... | " " | 1 | 9 |
| Add metal lathing .... | " " | 3 | 0 |
| Portland cement screed .... | " " | 2 | 9 |
| Do. plain face .... | " " | 4 | 6 |
| Mouldings in plaster .... | per 1 girth | 0 | 3 |
| One-and-a-half granolithic pavings .... | per yard sup. | 6 | 7 |

## GLAZIER.

| | | s. | d. |
|---|---|---|---|
| 21 oz. sheet plain .... | per foot sup. | 1 | 1 |
| 26 oz. Do. .... | " " | 1 | 4 |
| Obscured sheet .... | " " | 1 | 8 |
| ⅛ in. rolled plate .... | " " | 1 | 0 |
| ⅛ in. rough rolled or cast plate .... | " " | 1 | 1 |
| ¼ in. wired cast plate .... | " " | 1 | 7 |

## PAINTER.

| | | s. | d. |
|---|---|---|---|
| Preparing and distempering, 2 coats .... | per yard sup. | 1 | 3 |
| Knotting and priming .... | " " | | 8 |
| Plain painting 1 coat .... | " " | 1 | 0 |
| Do. 2 coats .... | " " | 1 | 9 |
| Do. 3 coats .... | " " | 2 | 6 |
| Do. 4 coats .... | " " | 3 | 3 |
| Graining .... | " " | 2 | 8 |
| Varnishing twice .... | " " | 2 | 0 |
| Sizing .... | " " | 0 | 4 |
| Flatting .... | " " | 0 | 8 |
| Enamel .... | " " | 1 | 6 |
| Wax polishing .... | per foot sup. | 0 | 10½ |
| French polishing .... | " " | 1 | 3 |
| Preparing for and hanging paper .... | per piece | 2/– to 4/– | |

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

# PROPOSED NEW BUILDINGS & OTHER WORKS.*

**In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.**

ABERDEEN.—Plans passed by T.C.:—Garage, 11, Bayview-road, for Mr. James E. Lawie, jun., per Messrs. Sutherland & George, architects; alterations and additions, 49, Catherine-street, for Messrs. Clark & Chapman; petrol tank, 8, Justice Mill-lane, for Messrs. Knowles & Sons, per William E. Gauld, architect; alterations, Victoria-road, for Mr. Alexander Taylor, per Messrs. R. Simpson & Co.; motor and engineering shop, King-street, for Messrs. Mutch & Farquharson, per Mr. William Rae.

BARKING.—Plans passed by U.D.C.:—Workshop, Hertford-road, for the Hertford-road Brass Foundry Co.; workshop and stores, Creeksmouth, for Lawe's Chemical Manure Co.

BARNSLEY.—Plans have been approved for large additions to the Osborne Club and Institute, Doncaster-road, Barnsley. The architect is Mr. P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street, Barnsley.

BEDFORD.—Plans passed by T.C.:—Mr. E. H. Inskip, for Mr. C. Carter, additions, The Embankment; Mr. E. H. Inskip, for J. & W. Gower, workshop, Haynes-road; Mr. H. George, garage, 2, Tennyson-road; Messrs. Usher & Anthony, for Mr. G. Davidson, garage, De Parys-avenue; Mr. C. Negus, for Mr. F. O'Dell, alterations, 101, Tavistock-street; Mr. R. Jeakings, for West End Club, additions, Ford End-road; Mr. J. P. White, Loggia, The Pyghtle, Bromham-road.

BELFAST.—Plans passed by T.C.:—Shop and stores in Newtownards-road, for J. Caswell; clubrooms, &c., in Antrim-road, for Brookville Masonic Hall Co., Ltd.; shop in Mountpottinger-road, for W. McCafferty; shop, &c., in Shankill-road, for McCarley & Co.; four houses in Woodvale-road, for D. Kilpatrick; shop and stores in Newtownards-road, for D. Kilpatrick; shop and stores in Newtownards-road, for J. Caswell; stores in Little Patrick-street, for Mrs. M. Murphy; 18 houses in Kimberley-street, for H. & J. Martin, Ltd.; boiler house in Cullingtree-road, for Lyle & Kinahan, Ltd.; store in Pilot-street, for S. Gray; dwelling-house in Nelson-street, for R. Craig & Sons, Ltd.; stores in Bendigo-street, for J. Dowling; boundary wall in Distillery-street, for Dunville & Co., Ltd.; stores in Corporation-street, for Irwin & Sellers, Ltd.; four houses in Woodvale-road, for D. Kilpatrick; shop in Howard-street, for W. Montgomery & Sons, Ltd.; store in Nelson-street, for R. Craig & Son, Ltd.; additions to premises in Wellwood-street, for P. Lavery; offices and stores in Snugville-street, for W. McComb, Ltd.; boundary wall at rear of Selby-street, for Dunville & Co., Ltd.; store in Gamble-street, for D. Gamble & Sons; stores in Donegall Quay, for J. H. Hunter & Co.; alterations to shop in Mountpottinger-road, for W. McCaffrey.

BIRMINGHAM.—The justices have granted the application for the removal of the licence from the "Prince of Wales," Victoria-road, Aston, to premises to be constructed at Gravelly-lane, Erdington; of the licence of the Islington Vaults, Sheepcote-street, to premises to be erected at the corner of Broad-street and Grenville-street. Plans for alterations to the "Malt Shovel," Hill-street, were passed.

CARDIFF.—Large extensions and alterations to the Post Office are contemplated in the near future in order to meet the growing demands of the service in this important centre. The scheme provides for the remodelling of the offices in Westgate-street.

CHESTER.—The Chester Consistory Court has granted an application by the vicar and wardens of St. John the Baptist, to remove three seats from the south transept to enlarge and improve the south-east chapel and to make other alterations in the church.

COVENTRY.—The justices have granted the applica- of Atkinson's Brewery Co. to remove the licence of the Theatre Vaults to new premises to be erected partly on the old site and partly on adjoining land.

CROYDON.—Plans passed by T.C.: Thompson & Walford, Leadenhall Buildings, E.C., outbuilding, Brighton-road, Purley Cottage Hospital; H. G. Rodda, 3, King William-street, Strand, W.C.2, House, Norbury-avenue; J. Bleeze, 79, Churchill-road, bungalow, Biddulph-road; P. M. Horder and B. A. Poulter, 5, Arlington-street, St. James', S.W.1, conversion of part into three flats, 124, Beulah-hill; Clout & Tysoe, London-road, Thornton Heath, 33 house, Silverleigh-road, S.W. side; G. Ive, 207, Knight's-hill, S.E.27, bay window, Norbury Hill-road; J. B. Hemmings, 37, Tunstall-road, house, Addiscombe-road; Croydon Corporation, Town Hall, additional lavatories, Thornton Heath Library; Grace & Marsh, 79, Tamworth-road, alterations and additions, 141, North End; A. Crofts, 17, Uplands-road, alterations, 174, Brighton-road; F. D. Bailey, Telegraph Hotel, Brigstock-road, two lock-up garages, 59, Brigstock-road; F. A. Powell, 344, Kennington-road, S.E.11, shop and business premises, 61, High-street, Croydon.

DERBY.—Plans passed by T.C.: Shop front, 81, Brougham-street, for Messrs. D. & J. Dawson, Ltd.; enlargement of sanitary blocks to male, female and children's wards at Burnley Victoria Hospital, Thursby-road, for the Management of Burnley Victoria Hospital.

DEWSBURY.—Plans have been approved for the erection of a new cinema in Cloth Hall-street, Dewsbury. The architect is Mr. P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street, Barnsley.

DINNINGTON.—A licence has been granted to Mr. S. W. Swale for a billiard hall to be erected at a cost, it was stated, of £3,000.

DONCASTER.—The justices have decided to allow the licence of the Wood-street Hotel, the site of which is required for road widening, to new premises that are being erected by John Smith's Tadcaster Brewery Co., on the Carr House-road. The justices have passed plans prepared by Mr. Hickson, architect, for the enlargement of the "Rockingham Arms," Bennithorpe.

EAST HAM.—Plans passed by B.C.:—Alterations to existing bookbinding works, Plashet-lane, for Mr. A. C. S. Wheeler; alterations to shop premises, 257, High-street North, for Mr. R. W. Lone; house, corner of Wanstead Park-avenue and St. Margarets-road, for Mr. E. G. Wilks; bank premises, 118, High-street North, for Mr. T. B. Whinney.

EDINBURGH.—At the last Dean of Guild Court 29 petitions were presented. Among these were the following:—John Barclay & Sons, for the erection of a picture house at 31 and 35, Lothian-road, Edinburgh—warrant granted; Edinburgh University Court, for erection of huts for chemistry department at West Mains—warrant granted; City of Edinburgh for reconstruction of buildings at 36, Grassmarket—warrant granted. Nine warrants were granted and nine cases remitted to the Burgh Engineer.

EGREMONT.—A faculty has been granted by the Chester Consistory Court to enlarge the chapel of St. Columbus, to raise the level of the chancel floor, to change the position of the lectern and pulpit, and to introduce choir stalls from Emmanuel Church, New Brighton.

ENNISCORTHY.—The late Mr. S. H. Buttle has left £4,000 to Messrs. Buttle Bros. "for building business premises."

EXETER.—The T.C. proposes to provide a public hall for the city by the adaptation of the Higher Market, at an estimated cost of £5,800.

GLASGOW.—Subject to the approval of the T.C., the Electricity Committee has concluded the purchase from the Caledonian Railway Company of an additional four acres of ground at Dalmarnock for the purpose of providing further sidings and other railway accommodation at the sub-power station in that locality. The ground is reported to cost £9,000, while the other works will total £50,000.

HUDDERSFIELD.—Plans have been prepared for the erection of stables, mistals, and piggeries, Crosland Moor, Huddersfield, for Mr. F. Cooper. The architect is Mr. P. A. Hinchliffe, 14, Regent-street, Barnsley.

LEYTON.—Plans passed by U.D.C.:—Mr. T. Tucker, extension to garage, 139, Hainault-road; Mr. H. Wilson, drainage, 59, Hainault-road; Mr. J. W. Green, latrines at Leytonstone Football Ground, Granleigh-road; Mr. W. A. Lewis, A.R.I.B.A., sanitary works, at The Patent Impervious Stone and Construction Co., Ltd., 97, Lea Bridge-road; Messrs. J. Jarvis & Sons, Ltd., alterations, 855, High-road, Leyton; Mr. S. Bent-Marshall, re-drainage of 699, High-road, Leyton.

LONDON (BERMONDSEY).—Plans passed: Store and flat, 50, Larnaco-street, for the L.C.C.

LONDON (CAMBERWELL).—Plans passed by B.C.:—At 93, Burbage-road, for Cook & Co., Ltd.; at the "Rose" public house, Edmund-street, and 19, Westmacott-street, for Mr. Newnham; at 95, 97, and 99, Peckham Park-road, for Mr. Amos; at 84, Barkworth-road, for Mr. Eves; at 7, Wagner-street, for Mr. Waterworth; at 18 and 20, Pomeroy-street, for Messrs. Cavey & Co.; at 87–91, 101–107, 115–119, Peckham Park-road, for Mr. Young; at the "Retreat," Queen's-road, for Mr. Lofting; at garage, 119, Ivanhoe-road, for Mr. Gray; at 15–18, Bonamy-street, for Mr. Whitaker; five houses and garage, The Gardens (at rear of) 166, Peckham Rye, for Mr. Stacey.

LONDON (GREENWICH).—The B.C. proposes to erect a new lodge at Greenwich Cemetery, at an estimated cost of £855.—Drainage plans passed by B.C.:—Mr. Alfred H. Durnford, 148, Powis-street, Woolwich; at 74, Charlton-road; Messrs. W. Mills & Sons, 14, Kirkside-road, Westcombe Park, at 48, 50 and 52, Charlton-road; Mr. J. J. Forrest, 14, Swallowfield-road, Charlton, at 17, 19, 21 and 23, Sundorne-road: Messrs. Smoker Bros., 28, Eastney-street, Greenwich, at 18, Calvert-road; Messrs. Hills, Clarkson & Co., St. Alfege Joinery Works, Lamb-lane, at Lamb-lane; Messrs. Hill & Pike, 101, Shaftesbury-road, Hammersmith, at 37, King William-street; Mr. Alfred Roberts, 92, London-street, Greenwich, 7 houses in Fairfield-road, 6 houses on the west side of Charlton-lane, and 15 houses on the east side of Charlton-lane; Mr. Fredk. A. Walters, 28, Great Ormond-street, at the Catholic Schools, Charlton-road; Messrs. Humphreys, Ltd., Knightsbridge, at the Charlton Athletic Football Ground, Ransom-road

LONDON (HACKNEY).—The L.C.C. has granted the application of the B.C. for sanction to borrow £6,544 for housing purposes.

LONDON (LEWISHAM).—Plans passed by B.C.:—Sanitary improvements 155, High-street, Lewisham, for Mr. C. Foster; additions, Brendon House, St. John's Hospital, for Mr. H. Kent.

LOWESTOFT.—Plans passed by T.C.: Mr. Hefft, office in Bridge-road; Messrs. Dyer & Balls, garage, Hall-road, Oulton Broad; Mutford and Lothingland Rural District Council, engine shed at depôt, Oulton Broad; Cocksedge & Co., workshop, 7, Duke's Head-street; Messrs. Richfords, motor garage, High-street and Osborne-street; Mr. J. Hailey, greenhouse, 355, London-road.

MERIDEN.—Plans passed by R.D.C.:—Cottage, Keresley-lane, Corley, for Mr. T. H. Richardson; alterations to cottage, Tile Cross, for Mr. H. Matthewson.

NEWCASTLE-ON-TYNE.—The Estate and Property Committee of the Corporation has agreed to request Mr. Halford, City Property Surveyor, to prepare a report showing how the Northumberland Baths site could be utilised to the best advantage.

NEWPORT.—The Great Western Railway Company has taken in hand the demolition of the property they hold in Thomas-street, Newport, with a view to enlarging the station.

OSSETT.—Plans have been approved for the erection of a new club and institute at Ossett, near Wakefield. The architect is Mr. P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street, Barnsley.

RIPON.—The justices have agreed to the licence for the "Horse and Jockey," Skellgarth, belonging to Messrs. Heyworth & Co., being renewed subject to the house being rebuilt.

ST. HELEN'S (ISLE OF WIGHT).—Plans passed by U.D.C.:—Bungalow, Fairy-road, Seaview, for Miss Du Port; bungalow, Bluett-avenue, for Messrs. Rownson, Drew & Clydesdale; store, Elm Villa, Marlborough-road, for Mr. Baker.

SHEFFIELD.—Plans passed by T.C.: six houses, Whirlowdale-road, for Mr. A. Waddington; two houses, lock-up shop and additions, Langsett-road and Wood-street, for Mr. J. Capper; two houses, Dunkeld-road, for Mr. A. J. Belton; house, Rough Bank, for Messrs. D. Gilmour & Co.; house and garage, School-lane, Wadsley Bridge, for Mr. Beatson; house and garage, Ecclesall-road, Wharlow, for Mr. H. C. Sayer; two houses and shop, High Field-lane, Orgreeve, for Mr. J. Frost; bungalow, Selbourne-road, for Mr. W. Newsam; bungalow, High Storrs-road, for Mr. F. R. Sowter.

SOUTH CROSLAND.—Plans passed by U.D.C.:—Bungalow, Springwood, Netherton Moor, for Mr. P. Crabtree.

SOWERBY BRIDGE.—Plans passed by U.D.C.:—Two houses and shops, Burnley-road, for Messrs. Helliwell & Shaw.

STAINFORTH.—Plans have been approved for the erection of a new cinema at Stainforth, near Doncaster. The architect is Mr. P. A. Hinchliffe, F.R.I.B.A., 14, Regent-street, Barnsley.

STAINLAND.—A Ministry of Health enquiry has been held into an application by the U.D.C. for sanction to borrow £3,000 for waterworks purposes.

STRATFORD.—Plans passed by U.D.C.: Motor house, 153, Seymour-grove, for Mr. Joseph H. Wolstenholme; cricket pavilion, off Seymour-grove, for the Manchester Press Cricket Club; showroom, Lime-road, for Mr. Harry Peers; addition to shop, 557, Chester-road, for Mr. Thomas J. Dillon; joiners' shop, First-avenue, for the Ford Motor Co. (England), Ltd.; re-drainage of Tractor Sheds Nos. 1 and 2, First-avenue, for the British-Australian Wool Realisation Association, Ltd.; alterations to Club, Moss-road, for the Metropolitan Vickers Electrical Co., Ltd.; gas production plant, Westinghouse-road, for Messrs. Courtaulds, Ltd.; additions to Victory Works, Longford Bridge, for Messrs. Parkinson and W. & B. Cowan, Ltd.; bakery, Skerton-road, for Messrs. W. J. Brookes & Sons, Ltd.

TORQUAY.—Plans have been submitted to the T.C. by the harbour engineer for filling in a portion of the inner harbour and transforming the reclaimed ground into an Italian garden.

TRING.—Plans passed by U.D.C.: house, Station-road, for Messrs. J. Honour & Sons.

WEST HARTLEPOOL.—Plans passed by the T.C.:—Royal Electric Theatre Co., addition of ladies' cloak-room; Johnson & Sons, Ltd., alteration to premises, Lambton-street; W. H. Lee, motor-cycle shed, rear of Co-operative Stores, Campion-street, Park and Osborne-roads; H. Harrison, alterations and additions to premises, Lynn-street; T. F. Thompson, addition of stick house in yard, 12, Park-square; Seaton Carew Golf Club, addition of ladies' dressing-room, Golf House, Seaton Carew, South Durham Steel and Iron Company, erection of war memorial in club grounds, Westbourne-road, British Petroleum Co., Ltd., erection of petrol store, Burn-road.

WIGTON.—The U.D.C. have passed plans for an extension to the Caldbeck Post Office property for Mr. I. Arnison; also for a new house and outbuildings at Crossrigg, Kirkbride, for Mr. R. T. Barnes, Low Eskrigg.

WINCHESTER.—The T.C. has passed plans for work at the College and for the rebuilding of a shop in the High-street.

YORK.—Plans passed by T.C.: London County & Westminster & Parr's Bank, Ltd., motor shed, 6, Boothman-terrace; York Education Committee, stable, Mill Mount; W. Wright & Sons, roof over yard, Goodramgate; Samuel Smith, alterations and additions, Trafalgar Bay Inn, Nunnery lane; Mrs. Thompson, additions, 214, The Mount; York Race Committee, lavatories, &c., Grand Stand, Knavesmire; J. H. Shouksmith & Sons, Ltd., alterations, Toft Green; Proprietors, Black Swan Hotel, Coney-street, alterations to the hotel; E. Dodgson, shed, Tanner-row; Yorkshire Penny Bank, Ltd., alterations, 7, New-street; T. F. Clark, conversion of cart shed into garage, 34, Buckingham-street.

## FIRES!

BERWICK.—A fire has occurred in a shop in Bridge-street, occupied by Mr. A. Chambers, boot factor.

LUTON.—The grand stand of the Luton Town F.C. has been completely destroyed by fire. The damage is estimated at between £2,000 and £3,000.

MANSFIELD.—A fire has occurred at a motor garage in Newgate-lane, Mansfield, belonging to Messrs. Oliver Brothers, and caused damage estimated at between £4,000 and £5,000.

PORT TALBOT.—The stationery, tobacco, and fancy goods premises of Mr. Harry Thomas, Station-road, have been completely destroyed by fire.

SOWERBY BRIDGE.—Damage to the extent of several thousand pounds has been caused by a fire which broke out at Milner Royd Mill, occupied by Humphrey & Co., carpet manufacturers.

YEADON.—An outbreak of fire has occurred in the South View Schools at Yeadon, which belong to the West Riding County Council.

* **See also our List of Contracts, Competitions, etc**

# TRADE NEWS.

Messrs. Sterns, Ltd., of Royal London House, Finsbury-square, E.C.2, makers of the wood preservative, "Sternocarbol," claim that when applied externally with an ordinary paint brush this product soaks into the interior of the wood, adding years to its life. In addition, it will adequately protect the surface from hail, rain, and wind.

The Year Book and Diary for 1922 issued by Messrs. W. G. Beaumont & Son, Priory Works, Bow, E. 3, is a "Tower Bridge Edition," and contains numerous illustrations of the work of painting Tower Bridge, which the firm has just completed for the City Corporation. Other large painting and decorating jobs carried out by the firm are illustrated, such as Southwark Bridge, Blackfriars Bridge, and Holborn Viaduct, and the remainder of the book is devoted to a useful diary for 1922.

Messrs. W. J. Furse & Co., Ltd., of Traffic-street, Nottingham, have secured the contract for the supply and installation of lightning conductor equipmentf or the new County Hall for the London County Council, which is one of the largest installations fixed to any public building. Messrs. Furse have been called in in this class of work previously, mainly in connection with the various equipments on H.M. factories for munitions, such as Gretna, Queensferry, &c., besides other important public buildings, including the Law Courts, London.

The excellent interior effects which can be obtained with their paints and distempers is illustrated in a booklet issued by Messrs. Blundell, Spence & Co., Ltd., of Hull, and 9, Upper Thames-street, E.C.4. Eight suggestions for the decoration of different rooms are given in colour. In the account of the "Ideal Home" Exhibition in our last issue Messrs. Blundell, Spence & Co.'s flat "Japonette" was wrongly described as a washable distemper; this material, is a flat washable oil paint, manufactured in a wide range of colours and tints.

"B. & T." mesh reinforcement, which is manufactured by Messrs. Brown & Tawse, Ltd., of 3, London-wall Buildings, E.C., is manufactured from square twisted wires, the cross wires being interwoven with the longitudinal wires or tension members in such a way that the latter are held in position by the natural lock created by the twisting of the material. We have received from the makers a new catalogue, which, in addition to illustrating a number of jobs which have been or are being carried out with "B. & T." reinforcement, contains certain tables and information which should be of service to engineers, architects and designers of reinforced concrete structures.

An improved type of electrical indicator has been invented, patented, and placed on the market by Messrs. Norris & Holley, 45–51, Clifford-gardens, Willesden, N.W.10. This indicator (the "Norley") is so constructed that mechanical details have been reduced to a minimum. The indicator has one moving part only, which is free from latches and springs. This one moving part serves the double purpose of armature and flag combined. The magnetic core is completely enclosed in the bobbin, thus condensing the field, both sides of which are equally operative on the armature, thereby rendering it extremely sensitive to electrical influence. The flags are thrown up by a plain rod, and fall into position by gravity. The indicator is free from vibration, the interior swinging apron eliminating shock. No machine thread screws or studs are used in its construction.

A new material, "Necol" plastic wood, has been put on the market by Messrs. Necol Industrial Collodions, Ltd., of 62, London Wall, E.C.2. This product is a mouldable material of the consistency of thick paste, which, we are informed, hardens on exposure to the air into a tough, solid, waterproof substance. When applied to a clean dry foundation of wood or other material it adheres without showing any tendency to powder or blister when exposed to moderate heat. The material may be moulded to any form, and when set hard can be worked up with the usual tools in every way similar to wood. Fillets, either straight or in intricate curves, can be modelled easily either with the fingers or a hollow tool. It can also be shaped with wood-working tools, turned in the lathe, or finished with file and sandpaper. It is claimed to be excellent for filling in shakes in timber, shrinkage, openings at joints, &c., and not affected by changes of temperature.

Messrs. John I. Thornycroft & Co., Ltd., have removed to Thornycroft House, Smith-square, S.W. 1.

The Building Trades Exchange and Club has removed to Union-passage, Bull-street, Birmingham. Mr. G. H. Tyler has succeeded Mr. Muskett as Secretary.

A new device for jointing timber (the "Bull-dog" safely metal timber joint) has been put on the market by the Pulnut Company, of 6, Great St. Helens, E.C.3. This takes the form of a steel plate turned up on the inner and outer edges to form teeth on both faces. When large pieces of timber are being bolted together the metal plate is placed between them around the bolt, and when the nut is tightened the teeth of the plate cut in, preventing the timber from slipping. The plates, which are made in various sizes, are suitable for all descriptions of large timber construction, and tend to prevent the wood from splitting at the bolts.

### Openings for Trade in Netherlands.

H.M. Consul-General at Rotterdam has forwarded to the Department of Overseas Trade the following extracts from the *Handelsbelangen* of February 15 and 22, in which particulars are given of contracts for which tenders are likely to be invited in the near future:—

*New Hospital.*—The Limburgsche Groene Kruis (address: Rijksweg Z.Z. 7, Sittard) intend building a modern hospital on the Sittard-Heerlen road, with accommodation for 250 patients. Estimate, gld. 1,250,000. Building will probably commence this summer.

*Asphalte Factory.*—The N.V. Utrechtsche Asphaltfabriek v.h. Stein & Takken, Maliebaan 35, Utrecht, intend building a new asphalte factory on the Merwedekanaal at Utrecht.

*Waterworks, Pumping Station, etc.*—Engineer A. D. Heederik (Voorschoterlaan 80, Rotterdam) is drawing up plans for the laying of waterworks, including tower, pumping station, &c., at Brielle. Estimate, gld. 279,000. If the subsidy which the Government has been asked for by the municipality of Brielle is granted, the work will probably commence this year.

### Building Guild.

At the Leeds Trades Hall last week a meeting of building trade operatives was addressed by Mr. H. Frankland, Chairman of the National Board of the Building Guild.

Mr. Frankland stated that there were now 140 Guild Committees in existence, that the organisation had in hand contracts of a total value of £2,500,000, and that works costing £800,000 had been completed. He appealed for financial assistance in order that the Guild might be in a position to take all the work it could get to execute on a non-profit basis. The Guild intended to continue with a 44-hour working week whatever might be done by private employers. The Guild was now employing 6,000 operatives, and if the necessary financial support could be obtained work could be accepted which would give employment to another 1,000 men. The aim of the Guild was to ensure labour being the first charge upon the industry, and it was hoped to obtain £5,000,000 worth of contracts this year, while the organisation was prepared for dealing with £10,000,000 worth next year. A definite bid was now being made to obtain complete industrial control of the building trades of the country. The Manchester Guild had secured a contract with the Manchester Corporation for a sub-station, for £12,600, in competition with the largest employers in the Manchester area, and it was hoped this would be the forerunner of many large contracts in the scheme of electrification throughout the north-western area.

# TENDERS.

**Communications for insertion under this heading should be addressed to "The Editor," and must reach us not later than Tuesday evening.**

***Denotes *accepted*. † Denotes *provisionally accepted*. ‡ Denotes *recommended for acceptance*. ‖ Denotes *accepted subject to modifications*.**

ABERAVON.—For alterations and additions to house at Ysguthan-road, for the Aberavon Labour Men's Club and Institute. Mr. T. Gibb, M.S.A., architect, Post Office Chambers, Port Talbot. Quantities by architect:—

| | |
|---|---|
| I. Vaughan John, Port Talbot | £387 |

BARROW-ON-SOAR.—For extension to works, for Messrs. John Ellis & Sons, Ltd.:—

| | |
|---|---|
| Mr. Ball, Barrow-on-Soar | £2,450 0 |
| B. W. Cole, Leicester | 2,400 0 |
| Clarke & Garrett, Leicester | 2,162 0 |
| Hardington & Elliott, Leicester | 2,062 5 |
| J. Chapman & Sons, Leicester | 1,991 0 |
| J. Freer, Barrow-on-Soar | 1,987 13 |
| T. Barker & Son, Loughboro' | 1,948 0 |
| Chitham & Co., Leicester | 1,937 0 |
| *F. Garner & Son, Leicester | 1,878 0 |

BLACKPOOL.—For erection of war memorial in Princess-parade Gardens (an obelisk 90 ft. high, &c., in Cornish granite). Mr. Ernest Prestwich, M.A., A.R.I.B.A., architect, Bradshawgate-chambers, Leigh. Quantities by architect:—

| | Cornish grey granite. | Darley Dale stone. |
|---|---|---|
| Gill & Sons, Doncaster | £23,500.. | £24,970 |
| Carlyle & Co., Ltd., Manchester | 25,244.. | 23,537 |
| Boulton & Sons, Ltd., Cheltenham | 24,900.. | 25,206 |
| Purdy & Millard, Belfast | 24,029.. | 21,982 |
| Manchester Monumental Co., Manchester | 24,000.. | 22,700 |
| J. & H. Patteson, Manchester | 23,638.. | 21,968 |
| John Tinline, Ltd., Bury | 23,500.. | 20,000 |
| Lewis & Sons, Blackburn | 22,582.. | 19,759 |
| F. & H. Nuttall, Ltd., Manchester | 22,410.. | 18,988 |
| Smith Bros., Ltd., Burnley | 21,980.. | 21,000 |
| Harding & Sons, Chester | 21,750.. | 19,530 |
| Manchester Stone & Slate Co., Manchester | 21,000.. | 17,650 |
| J. Fairclough, Ltd., Adlington | 20,395.. | 17,436 |
| Moss & Sons, Ltd., Liverpool | 20,295.. | 17,495 |
| Wm. Eaves, Blackpool | 20,254.. | 18,847 |
| Jonnson & Sons, Ltd. | 20,167.. | 17,400 |
| Hodson's, Ltd., Nottingham | 19,632.. | 17,701 |
| G. & J. Moore, Manchester | 19,251.. | 16,104 |
| Whittaker & Sons, Ltd., Blackburn | 19,100.. | 6.490 |
| Dickinson & Co., Ltd., Bolton | 19,047.. | 16,827 |
| Fielding & Sons, Ltd., Blackpool | 19,000.. | 16,900 |
| Dryland & Preston, Ltd., Blackpool | 18,997.. | 16,798 |
| Parkinson & Sons, Blackpool | 18,830.. | — |
| Thornton & Sons, Ltd., Liverpool | 18,650.. | 16,400 |
| Lehane & Co., Darley Dale | 17,555.. | 14,670 |
| ‡Clegg & Sons, Chester | 17,320.. | 15,380 |

BLAIRGOWRIE.—For reconstruction of New Mill Farm House. Mr. Lake Falconer, architect, Blairgowrie:—

*G. & C. Farquharson (*Mason*).
*R. Bell & Son (*Joiner*).
*Philip & MacGregor (*Plumber*).

BLAIRGOWRIE.—For additions to Links Lodge, Rosemount, for Mr. David Carmichael. Mr. Jas. Lowe, architect, Dundee:—

*Ex-Bailie Hill (*Mason*).
*Jas. F. McRitchie (*Joiner*).
*Wm. Donald (*Plumber*).
*R. T. Craigie (*Slater*).
*Jos. Bell (*Plasterer*).

BLAIRGOWRIE.—For painter work at Emma-street housing scheme, for the T.C. Mr. J. A. R Macdonald, architect, Blairgowrie:—

*James Gray, Blairgowrie.

BLAIRGOWRIE.—For alterations at Rosemount House. Messrs. Thomas & Wilkie, architects, Dundee:—

*D. Reid & Son, Coupar Angus.

BRADFORD.—Supply of 542 ft. of wrought-iron railings, to the T.C.:—

| | |
|---|---|
| *Bayliss, Jones & Bayliss, Wolverhampton | £230 10 |

CONISBOROUGH.—Erection of 32 houses, for the U.D.C.:—

| | |
|---|---|
| *R. Lehane & Co., Darley Dale—For 22 houses | £11,028 |
| *G. Senior, Conisborough—For 10 houses | 4,800 |

CROYDON.—Provision of lavatory accommodation at Thornton Heath Library, for the T.C.:—

| | |
|---|---|
| *G. Poulton & Sons | £578 11 8 |

DINAS POWIS.—For erection of church, for the Right Rev. Monsignor O'Reilly. Mr. J. P. Grant, Architect, Cardiff :—

| | |
|---|---|
| D. O'Neil, Cardiff | £1,655 19 8 |

DONCASTER.—For erection of office buildings in Wood-street, for the T.C. Mr. R. E. Ford, Estates Surveyor, 3, Priory-place, Doncaster. Quantities by Surveyor :—

| | |
|---|---|
| *T. H. Wilburn, Ltd., Doncaster | £2,997 9 7 |

DONCASTER.—Supply of 9-in. water pipes, &c., for the T.C. :—

| | |
|---|---|
| *Cochrane & Co. | £2,190 12 9 |

EGYPT.—Supply and installation of pumping machinery at Atf, Lower Egypt, for the Public Works Ministry :—

| | |
|---|---|
| *Associated British Manufacturers (Egypt), Ltd. | £E.70,000 |

HELSTON.—For erection of Helston and District Cottage Hospital. Mr. W. J. Johns, Hon. Secretary, Helston. Mr. R. J. Wearne, Architect and Surveyor :—

| | |
|---|---|
| Carkeek & Sons, Redruth | £3,520 |
| W. I. Ivey & Son, Hayle | 3,330 |
| W. I. Nezise & Mitchell, Helston and Camborne | 3,329 |
| Williams & Son, St. Austell | 3,187 |
| *E. H. Winn, Helston | 3,079 |
| Architect's Estimate | 3,155 |

HIGH WYCOMBE.—For alterations and renovations to the Infirmary at the Union School, Bledlow, for the B.G. Mr. B. L. Reynolds, Clerk, 12, Easton-street, High Wycombe :—

| | |
|---|---|
| *A. C. Dean, High Wycombe | £115 |

IPSWICH.—For interior decorations at St. John's Home Infirmary, part of main block, and "Heathfields," part of centre and east blocks, for the Ipswich B.G. Mr. J. Sherman, architect, 9, Northgate-street, Ipswich :—

*Heathfield House—*

| | (1) Kitchen, &c. | (2) Female Pav. | (3) Married Quarters. |
|---|---|---|---|
| Bennett & Snare, Ipswich | £78 0 | £272 | £55 0 |
| S. J. Goddard & Son, Ipswich | 67 10 | 225 | 48 0 |
| Stearn & Son, Ipswich | 59 0 | 230 | 42 0 |
| Pollard & Skerritt, Ipswich | 58 10 | 195 | 43 10 |
| Chas. Warner, Ipswich | 57 0 | 165 | 36 0 |
| S. Smith, Ipswich | 52 0 | 187 | 31 10 |
| *Boyce & Son, Ipswich | 59 12 | 159 | 36 0 |

*St. John's Home—*

| | (1) Infirmary | (2) St. John's Home |
|---|---|---|
| Bennett & Snare | £248 0 | £99 0 |
| S. J. Goddard & Son | 163 0 | 53 10 |
| S. Smith | 158 0 | 68 0 |
| Pollard & Skerritt | 159 0 | 55 0 |
| Chas. Warner | 149 0 | 60 0 |
| Stearn & Son | 158 0 | 52 0 |
| *Boyce & Son | 139 18 | 59 0 |

KENSINGTON.—For erection of 40 flats and 4 cottages at St. Mark's-road, North Kensington, in connection with St. Quintin housing scheme (2nd section), for the B.C. The Town Clerk, Kensington :—

| | |
|---|---|
| W. Quennell, London | £37,324 0 0 |
| Harpenden Building Co., Ltd., Harpenden | 32,848 0 0 |
| W. Lawrence & Son, Ltd., London | 32,100 0 0 |
| W. Laughton, Bedford | 32,199 0 0 |
| J. E. Johnson & Son, Ltd., Leicester | 31,999 0 0 |
| W. Pattinson & Sons, Ltd., London | 31,500 0 0 |
| A. S. Franklin, London | 31,100 0 0 |
| Lund, Cudemore & Co., Stafford | 31,020 0 0 |
| G. Bollom, London | 30,397 0 0 |
| G. Godson & Sons, Ltd., London | 30,390 0 0 |
| Holliday & Greenwood, Ltd., London | 30,000 0 0 |
| J. W. Woolnough & Co., Eastbourne | 30,000 0 0 |
| Sabey & Son, London | 29,973 0 0 |
| G. Duncombe, London | 29,790 0 0 |
| Holland & Hannen and Cubitts, Ltd., London | 29,758 0 0 |
| W. Alban Richards & Co., Ltd., London | 29,555 0 0 |
| W. Walkerdine, Ltd., London | 29,485 0 0 |
| C. Peppiatt, London | 29,348 0 0 |
| A. Roberts & Co., London | 29,466 0 0 |
| C. Miskin & Sons, Ltd., St. Albans, Herts | 29,217 0 0 |
| Lane Bros., London | 29,211 0 0 |
| Thos. Shillitoe, London | 28,820 0 0 |
| Leslie & Co., Ltd., London | 28,767 0 0 |
| Thomas & Edge, London | 28,120 0 0 |
| J. E. Billings & Co., Ltd., Oxford | 27,977 0 0 |
| Guild of Builders (London), Ltd., London | 27,913 0 0 |
| Geo. Slade & Co., Ltd., London | 27,756 0 0 |
| Hill & Gurr, Bromley | 27,515 0 0 |
| Rowley Bros., London | 27,468 0 0 |
| Collinson & Co., Ltd., London | 27,455 0 0 |
| T. Wood & Sons, Luton | 27,200 0 0 |
| Walter W. Webster, Northampton | 26,990 0 0 |
| J. Laing & Son, Ltd., London | 26,982 4 3 |
| Allen Fairhead & Son, London | 26,962 0 0 |
| Wm. Moss & Sons, Ltd., London | 26,392 0 0 |
| Seymour Construction Co., Ltd., London | £26,253 19 8 |
| Walter Jones & Sons, London | 26,207 0 0 |
| F. & G. Foster & Co., London | 26,126 0 0 |
| W. H. Gaze & Sons, Kingston-on-Thames | 25,987 0 0 |
| J. & C. Costin, Harrow | 25,911 0 0 |
| W. G. Tarrant, Ltd., Byfleet | 25,693 0 0 |
| A. G. Winters, London | 25,336 0 0 |
| R. Merton Hughes, London | 24,971 0 0 |
| Chas. Groom, Son & Co., London | 24,109 0 0 |
| *Harry Neal, Northwood | 23,390 0 0 |

* The amount of the accepted tender was subsequently reduced on condition that the contractor was allowed to purchase materials in the open market.

LEICESTER.—For erection of a residence, for Mr. G. A. Phipps, Aylestone :—

| | |
|---|---|
| B. W. Cole, Leicester | £2,806 0 0 |
| Chitham & Co., Leicester | 2,769 0 0 |
| J. E. Johnson & Son, Leicester | 2,766 0 0 |
| J. C. Kellett & Son, Leicester | 2,755 0 0 |
| W. H. Foulds, Leicester | 2,700 0 0 |
| Clark & Garrett, Leicester | 2,698 0 0 |
| F. Elliott, Leicester | 2,685 0 0 |
| Hardington & Elliott, Leicester | 2,674 5 6 |
| J. Chapman & Sons, Leicester | 2,597 0 0 |
| *F. Garner & Son, Leicester | 2,592 0 0 |

LEICESTER.—For extensions No. 1 and 2 to factory, Doncaster-road :—

*Extension No. 1—*

| | |
|---|---|
| W. Smith & Hutchinson, Leicester | £3,768 0 0 |
| Duxbury & Sons, Leicester | 3,715 0 0 |
| Bowles & Son, Leicester | 3,380 0 0 |
| W. Haddon & Son, Leicester | 3,330 0 0 |
| T. R. Price & Co., Leicester | 3,266 2 3 |
| Haskard Rudkin & Co., Leicester | 3,234 0 0 |
| W. Stanger, Leicester | 3,177 0 0 |
| Chitham & Co., Ltd., Leicester | 3,166 0 0 |
| W. & H. Foulds, Leicester | 3,155 0 0 |
| W. M. Sharp & Son, Leicester | 3,153 0 0 |
| Hardington & Elliott, Leicester | 3,147 0 0 |
| B. W. Cole, Leicester | 3,134 0 0 |
| Clarke & Garrett, Leicester | 3,127 0 0 |
| C. E. Sutton, Leicester | 3,099 0 0 |
| W. Potter, Leicester | 3,033 0 0 |
| J. Chapman & Sons, Leicester | 2,943 0 0 |
| *F. Garner & Son, Leicester | 2,940 0 0 |

*Extension No. 2—*

| | |
|---|---|
| W. Smith & Hutchinson | £2,826 0 0 |
| Duxbury & Son | 2,571 0 0 |
| Bowles & Son | 2,485 0 0 |
| W. Haddon | 2,475 0 0 |
| C. E. Sutton | 2,449 0 0 |
| Chitham & Co. | 2,410 0 0 |
| W. H. Foulds | 2,404 0 0 |
| Hardington & Elliott | 2,367 0 0 |
| Haskard Rudkin & Co. | 2,361 0 0 |
| T. R. Price & Co. | 2,356 0 0 |
| W. Stanger | 2,335 0 0 |
| B. W. Cole | 2,328 0 0 |
| W. M. Sharp & Son | 2,268 0 0 |
| W. Potter | 2,265 0 0 |
| Clarke & Garrett | 2,258 0 0 |
| J. Chapman & Sons | 2,257 0 0 |
| *F. Garner & Son | 2,210 0 0 |

LITTLE EALING.—For alterations to "The Plough" Inn. Mr. Nowell Parr, M.S.A., architect, 42, Cranley Gardens, S.W.7 :—

| | |
|---|---|
| Myring & Son | £2,109 0 0 |
| William Lacey | 1,760 0 0 |
| G. Godson & Sons, Ltd. | 1,600 0 0 |
| A. & B. Hanson, Ltd. | 1,596 0 0 |
| Dorey & Co., Ltd. | 1,500 0 0 |
| *Frederick Jones, Fulham | 1,499 9 9 |

LONDON.—For various works and supplies for six months, for the Lewisham B.C. :—

*Constable, Hart & Co.—Coarse tarpaving at 40s. 6d. to 43s. 6d. per ton, and fine tarpaving at 45s. 6d. to 48s. 6d. per ton, according to place of delivery.

*W. & J. Glossop.—Tar spraying roads at 2.4d. for first coat work, and 2.14d. for second coat work.

*Constable, Hart & Co.—1½ in. tarred slag at 39s. per ton; ¾ in. tarred slag at 40s. 6d. per ton.

*Tarmac, Ltd.—1½ in. tarred slag at 38s. 2d. per ton, and ¾ in. tarred slag at 39s. 8d. per ton.

*A. J. Hewens—Tools, implements, &c., £668 8s.

LONDON.—For making up part of Kinveechy-gardens, for the Greenwich B.C. :—

| | |
|---|---|
| G. B Hughes & Co., Ltd. | £2,800 0 0 |
| W. H. Wheeler & Co., Ltd. | 2,544 9 8 |
| Henry Woodham & Sons, Ltd. | 2,466 0 0 |
| *Borough Engineer and Surveyor | 2,383 2 6 |
| A. L. Etheridge | 2,357 0 0 |
| John Mowlem & Co., Ltd. | 2,155 0 0 |

LONDON.—Erection of the Hammersmith pumping station, for the L.C.C. :—

| | Alternative (i) | Alternative (ii) |
|---|---|---|
| John Laing & Son, Ltd., W.C. (b) | —— | —— |
| F. & G. Foster & Co., Norwood (a) | £82,820 0 0 | —— |
| Thomas & Edge, Woolwich (a) | 76,600 0 0 | —— |
| H. F. Higgs, Ltd., Herne-hill (a) | 67,500 0 0 | —— |
| F. G. Cressy, Chiswick (a) | 62,016 0 0 | On a 10% basis on cost |
| Thomas Shillitoe, N. | 109,863 0 0 | —— |
| R. Merton Hughes, Baron's Court | 97,071 0 0 | —— |
| D. G. Somerville & Co., Ltd., S.W. | 88,150 19 8 | —— |
| G. E. Everitt & Sons, Ltd., Croydon | 81,616 0 0 | £88,346 0 |
| W. J. Parker, Ltd., S.W. | 80,064 0 0 | —— |
| Davidson & Sykes, Ltd., S.W. | 76,704 18 11 | —— |
| Frank Hayes, Liverpool | 76,513 14 3 | —— |
| Walter Jones & Sons, S.W. | 71,645 15 10 | —— |
| W. Pattinson & Sons, Ltd., S.W. | 67,050 4 8 | —— |
| Kinnear, Moodie & Co., Glasgow | 66,877 18 3 | —— |
| Wm. Walkerdine, Ltd., Kensington | 66,283 4 0 | —— |
| Seymour Construction Co., Ltd., Barking | 63,884 4 2 | —— |
| A. E. Farr, E.C. | 62,520 8 10 | —— |
| A. Roberts & Co., Ltd., W. | 62,516 0 0 | —— |
| Allen Fairhead & Son, Enfield | 61,416 3 0 | —— |
| John McManus, Ltd., Hammersmith | 60,961 14 8 | —— |
| J. Mowlem & Co., Ltd., S.W. | 60,595 0 0 | —— |
| Galbraith Bros., Ltd., Camberwell | 60,230 1 10 | —— |
| G. Munday & Sons, Ltd., E.C. | 59,128 5 3 | 57,319 0 0 |
| J. E. Johnson & Son, Ltd., Leicester | 57,442 3 8 | 57,729 11 3 |
| Dilliway & Elvy, Kensington | 54,806 5 6 | 56,587 18 |
| *Leslie & Co., Ltd., Kensington | 54,290 8 11 | —— |

(a) Informal. (b) Informal and incomplete.

LONDON.—For making up Lanbury-road, Nunhead, for the Camberwell B.C. :—

| | |
|---|---|
| William Shepherd & Sons, Ltd., Rochdale | £3,295 0 0 |
| Tarmac, Ltd., Wolverhampton | 2,103 0 0 |
| William Griffiths & Co., Ltd., E.C.2 | 1,548 19 3 |
| Campbell Kenyon & Co., Willesden | 1,535 8 6 |
| F. G. Sheppard, Peckham | 1,484 16 0 |
| Henry Woodham & Sons, Ltd., Catford | 1,399 10 0 |
| John Mowlem & Co., Ltd., S.W.1 | 1,346 3 1 |
| A. C. W. Hobman & Co., Ltd., Bermondsey (a) | 1,225 2 6 |
| *Borough Engineer's Estimate | 1,067 8 0 |

* Work to be executed by direct labour. (a) Does not include the whole of the work.

LONDON.—The L.C.C. has accepted the following tenders for the execution of jobbing repairs to heating apparatus in the Council Schools and other buildings :—For the purposes of the contracts the County of London is divided into eight groups or districts, and the tenders are based on a schedule of prices, the contractors having quoted percentages above or below the rates for the various items: Beaven & Sons, Ltd. (groups 1 and 2); Messrs. Palowkar & Sons (group 3); J. Jeffreys & Co., Ltd. (group 4); H. J. Cash & Co., Ltd. (group 5); W. G. Cannon & Sons, Ltd. (groups 6 and 7); and The Thames Bank (Blackfriars) Iron Co., Ltd. (group 8).

LONDON.—For supplying and laying asphalte for six months, for the Lewisham B.C. :—

| | |
|---|---|
| *Ragusa Asphalte Co. | At 5s. 6d. per yard super. using all new asphalte; and 3s. 11½d. per yard super. using half old asphalte. |

LONDON.—Works of repair at Burdett-road underground convenience, for the Stepney B.C. :—

| | |
|---|---|
| Ashby & Horner, Ltd., London | £375 |
| Turnbull & Son, London | 360 |
| Perry & Co. (Bow), Ltd., Bow | 350 |
| E. A. Roome & Co., Ltd., Hackney | 294 |
| J. Jarvis & Sons, Ltd., Hackney | 280 |
| W. Gladding & Co., Whitechapel | 273 |
| *Harris & Wardrop, London | 235 |

LONDON.—For the execution of general works and repairs to sewers, bridges, subways, &c., for one year from April 1, for the L.C.C. :—

| Name of Tenderer. | Percentage above prices in First Schedule. (Measured work.) For works on north and south sides of Thames. | For works on north side of Thames. | For works on south side of Thames. | Percentage above rates in Second Schedule for labour for day work. |
|---|---|---|---|---|
| G. J. Anderson, E.14 | —— | 200 | —— | 20 |
| F. R. Hipperson, Norwich | 160 | 170 | 165 | 15 |
| British Renovating Co., Ltd., E.16 | 150 | 150 | 175 | 12½ |
| Chessums, Ltd., N.15 | —— | 138½ | —— | 15 |
| A. G. Winters, S.E.25 | 133 | 133 | 133 | —— |
| Leslie & Co., Ltd., Kensington | 132 | —— | —— | 10½ |
| *John Mowlem & Co., Ltd., S.W.1 | 118 | 118 | 118 | 8½ |

LONDON.—Reinforcement of bio-aeration tank at Sewage Works, for the East Ham B.C. :—
*Walker-Weston Co. ....At 5s. 3d. per sq. yard.

LONDON.—Supply of 50 tons of pitch to the Stepney B.C. :—

| | |
|---|---|
| Dussek Bitumen Co., London.... | £272 10 |
| Burt, Boulton & Haywood, Ltd., London ..... | 225 0 |
| Grindley & Co., Ltd., Poplar..... | 225 0 |
| Crow, Catchpole & Co., Barking.... | 212 10 |
| Gas Light & Coke Co., London.... | 193 15 |
| *J. Smart & Son, Poplar..... | 157 10 |

LONDON.—For the supply of materials to the Kensington B.C. :—
*Tar Roads Syndicate —Tar spraying work, 2$\frac{13}{16}$d. and 2$\frac{7}{16}$d. per yard for macadam and gravel carriage-ways and wood-paved carriage-ways respectively.
*J. Mowlem & Co.—Wood paving works (repairs), at schedule prices.
*Alex. Thomson & Co.—Paving work (masons and paviors), at 133$\frac{1}{3}$ per cent. above schedule prices.
*A. & F. Manuelle—Broken blue Guernsey granite, at £1 6s. per ton.
*P. Shepherd & Co.—Tarred broken slag, at £2 4s. to £2 6s. per ton.
*London Granite Co.—Broken Quenast granite, at £1 6s. 3d. per ton.
*A. & F. Manuelle—Granite siftings, £1 3s. per ton.
*H. Sabey & Co.—Uncrushed shingle, at 11s. 4d. and 16s. per cubic yard.
*. J. Greenham—Uncrushed shingle, at 12s. per cubic yard.
*W. Boyer & Co.—Cowley gravel, at 6s. 9d. per ton to wharf.
*Sankey & Co.—Stoneware drain pipes, &c., at 7$\frac{1}{2}$ per cent. above schedule prices.
*General Distributing Agency—Lime and cement, at schedule prices.
*A. H. Lavers & Co.—Ground lime and blue lias, at schedule of prices.
*Nest Bros.—Bricks at schedule of prices.
*A. C. Woodrow—Iron goods.
*S. Pontifex & Co.—Lamp columns, &c., at schedule prices.
*A. C. Woodrow—Gulley grates and coal plates, at schedule prices.
*E. Rogers & Co.—Jobbing sewer work.
*G. N. Watts, Ltd.—Jobbing builder's work.

NEWTON ABBOT.—For supplying and laying 2 miles of 3-in. cast-iron water mains, for Islington water supply, for the R.D.C. Mr. F. Horner, Town Clerk, Newton Abbot :—

| | |
|---|---|
| W. C. Morgan, Olney ..... | £4,852 14 0 |
| A. & J. Tutcher, Bristol..... | 3,219 14 9 |
| Western Construction Co., St. Austell ..... | 3,170 0 0 |
| A. P. Yeoman, Kingsteignton.. | 2,951 0 6 |
| W. H. Rogers, Wolverhampton | 2,898 14 9 |
| G. Percy Trentham, Ltd., Birmingham ..... | 2,895 7 6 |
| F. J. Zealley & Sons, Newton Abbot ..... | 2,860 0 0 |
| Hugh Mills & Son, NewtonAbbot | 2,850 18 0 |
| J. Cochrane & Sons, Ltd., London ..... | 2,835 5 6 |
| A. T. Dingle, Redruth..... | 2,831 16 6 |
| A. Best, Ltd., Teignmouth.... | 2,798 14 10 |
| W. H. Smith, Bristol..... | 2,757 0 0 |
| Edwin Harris & Son, Exeter.. | 2,711 0 0 |
| Hanney Bros., Swansea..... | 2,687 5 0 |
| Geo. Pollard & Co., Ltd., Taunton ..... | 2,663 2 1 |
| A. J. Steer, Plymouth ..... | 2,657 7 4 |
| Fothergrill Bros., Ltd., Exeter.. | 2,621 9 10 |
| H. C. Pullar & Co., Manchester | 2,556 3 0 |
| A. Farley, Pontardulais..... | 2,168 19 8 |

NOTTINGHAM.—For erection of 12 parlour-type houses, on the Highbury-road (Bulwell) Estate, for the T.C. Mr. T. C. Howitt, Housing Architect and Surveyor, Nottingham :—
*F. W. Horton, Lincoln, per house.... £497

OGMORE.—For erection of 24 houses at Nantymoel, for the U.D.C. Mr. A. H. Jenkins, Housing and Town-Planning Surveyor, Council Offices, Brynmenyn :—

| | "B" type, per house. |
|---|---|
| Morgan & Davies, Treorchy..... | £672 0 |
| Building Guild, Cardiff..... | 627 5 |
| C. Woolley, Pontardawe..... | 625 18 |
| Jenkin Davies, Maesteg..... | 565 15 |
| Owen E. Jones, Maesteg ..... | 549 10 |
| *S. A. Bartlett, Ogmore Vale..... | 485 0 |

ROCHDALE.—For paving part of Ivor-street, Clovelly-street, and Lynton-avenue, Castleton, for the Paving Committee. Mr. W. H. Hickson, Town Clerk, Rochdale :—
Radford Tebbs & Co., Derby.

STAFFORD.—For painting, &c., at the Royal Baths, for the T.C. Mr. W. Plant, Borough Engineer, Stafford :—

| | |
|---|---|
| Goodwin & Duggan, Stafford .... | £276 8 |
| G. Lawton & Son, Stafford ..... | 263 13 |
| C. F. Mather, Stafford ..... | 225 9 |
| W. Packman, Stafford ..... | 224 0 |
| *Godwin & Brown, Stafford ..... | 201 0 |

WORTHING.—For erection of additional store accommodation at Generating Station, for the T.C. :—

| | |
|---|---|
| A. Crane, Worthing..... | £579 7 0 |
| Building Guild, Ltd., Brighton.. | 561 0 0 |
| F. Sandell & Sons, Worthing.... | 553 0 0 |
| Ringmer Building Works, Ringmer ..... | 519 12 0 |
| W. H. Hamper, Worthing..... | 496 13 5 |
| *James Bodle, Ltd., Eastbourne.. | 476 0 0 |

YORK.—For painting work, &c., at the Institution, Huntingdon-road, for the Guardians. Mr. G. Sykes, Clerk, Union Offices, York :—
J. Dodsworth & Sons, York..... £173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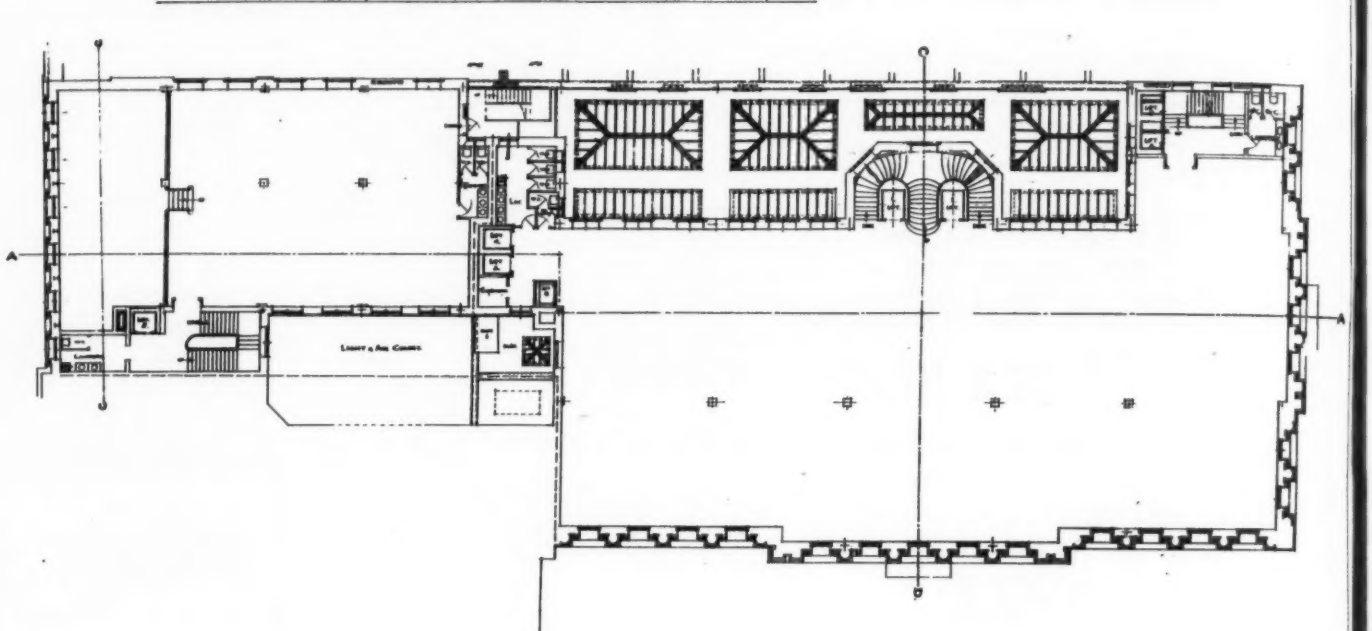
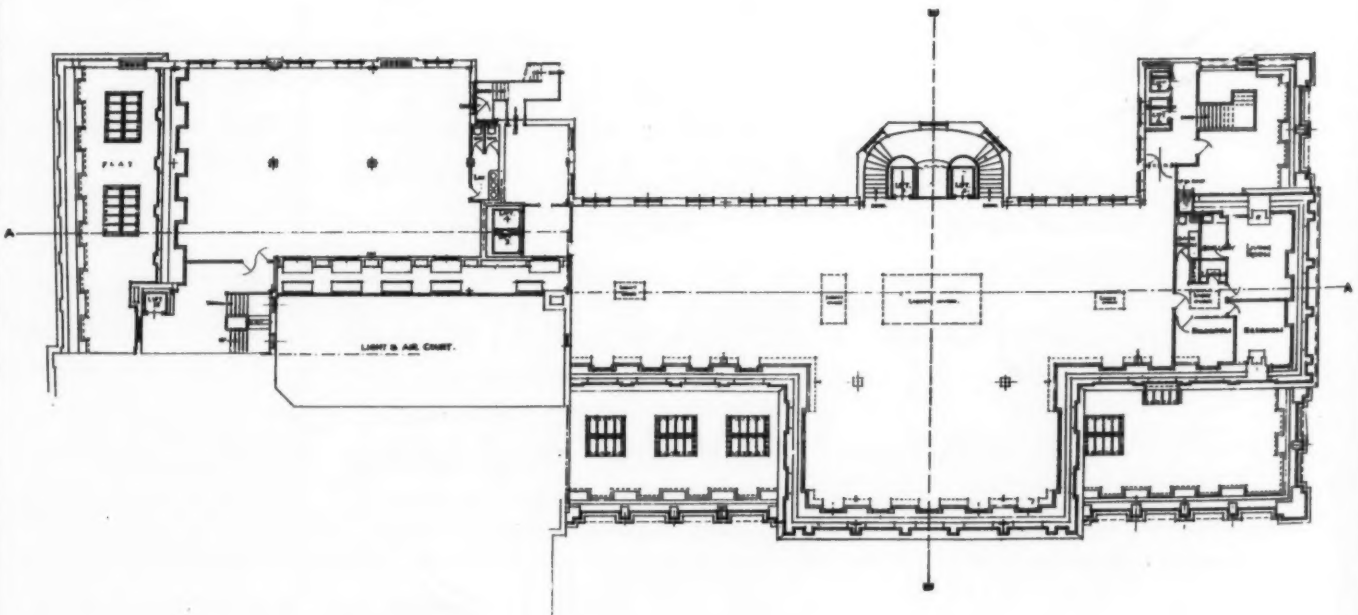
DRAWING No 261

## NEW BANK PREMISES FOR MESSRS COX AND CO.

Nos 1 TO 6 WATERLOO PLACE, 6 TO 8 PALL MALL 25 TO 27 CHARLES STREET, S.W.



FIRST FLOOR PLAN.



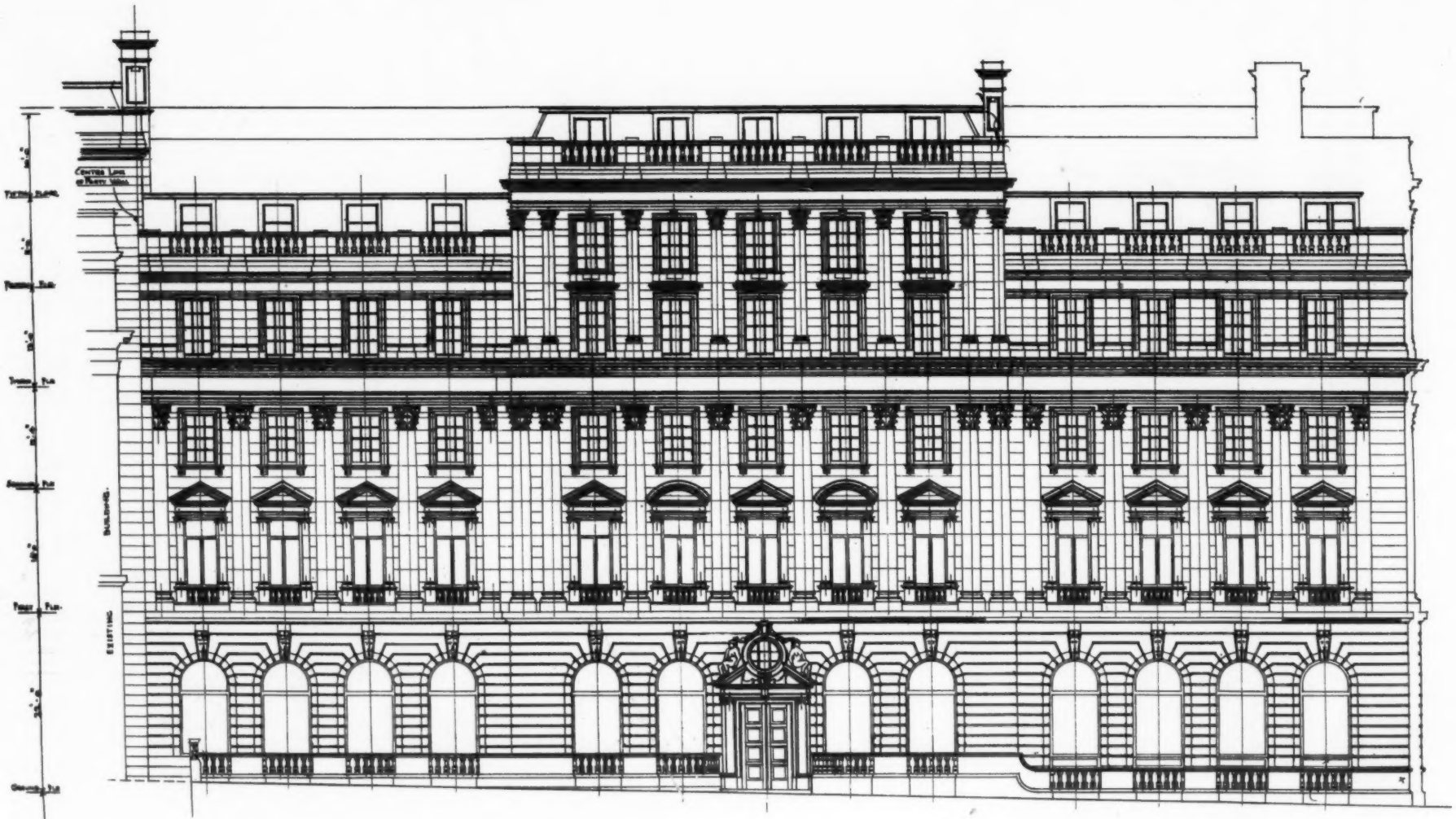
FIFTH FLOOR PLAN

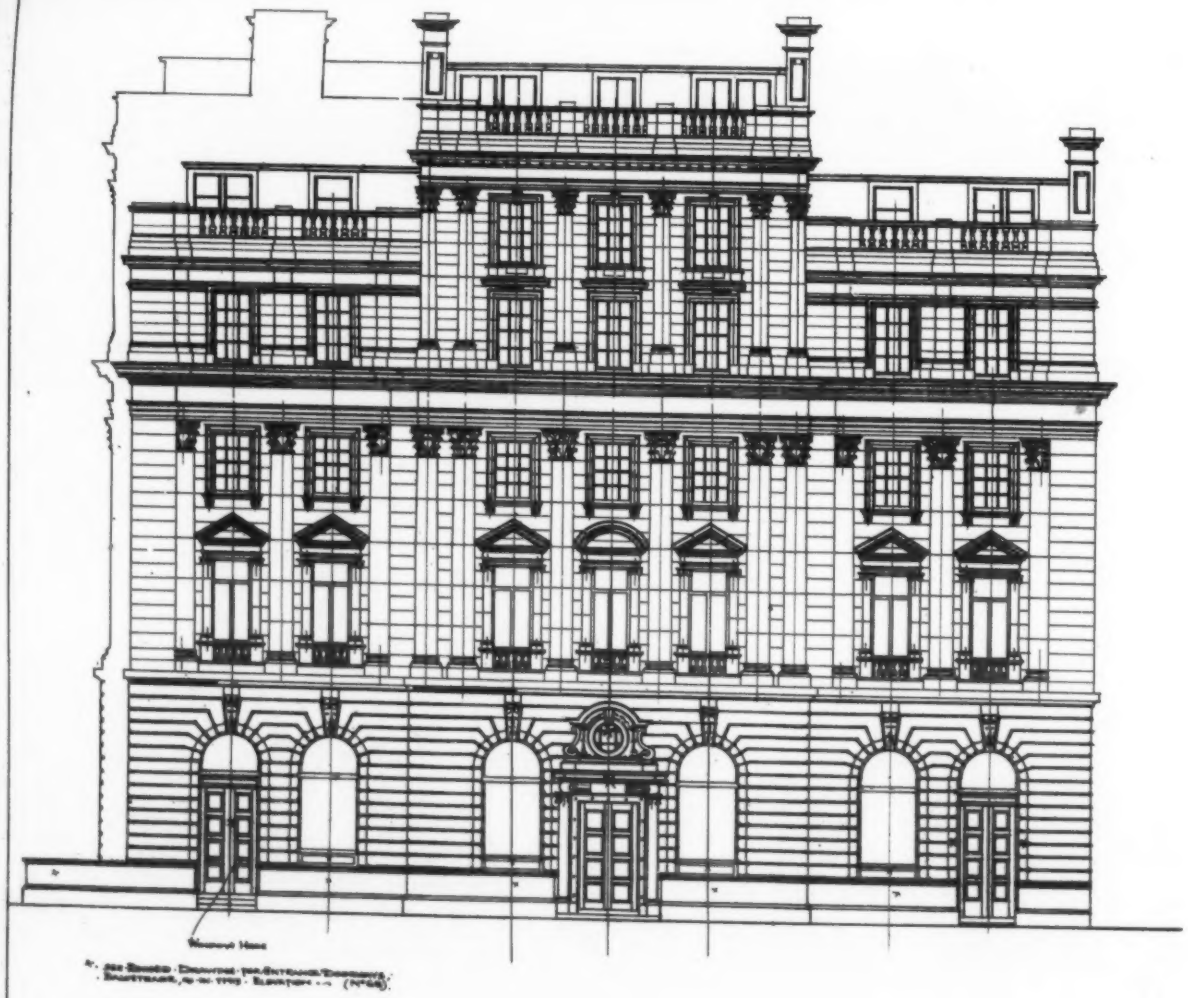
SCALE, 8 FEET TO ONE INCH

MESSRS. E. KEYNES PURCHASE, F.R.I.B.A., & DURWARD BROWN, ARCHITECTS.

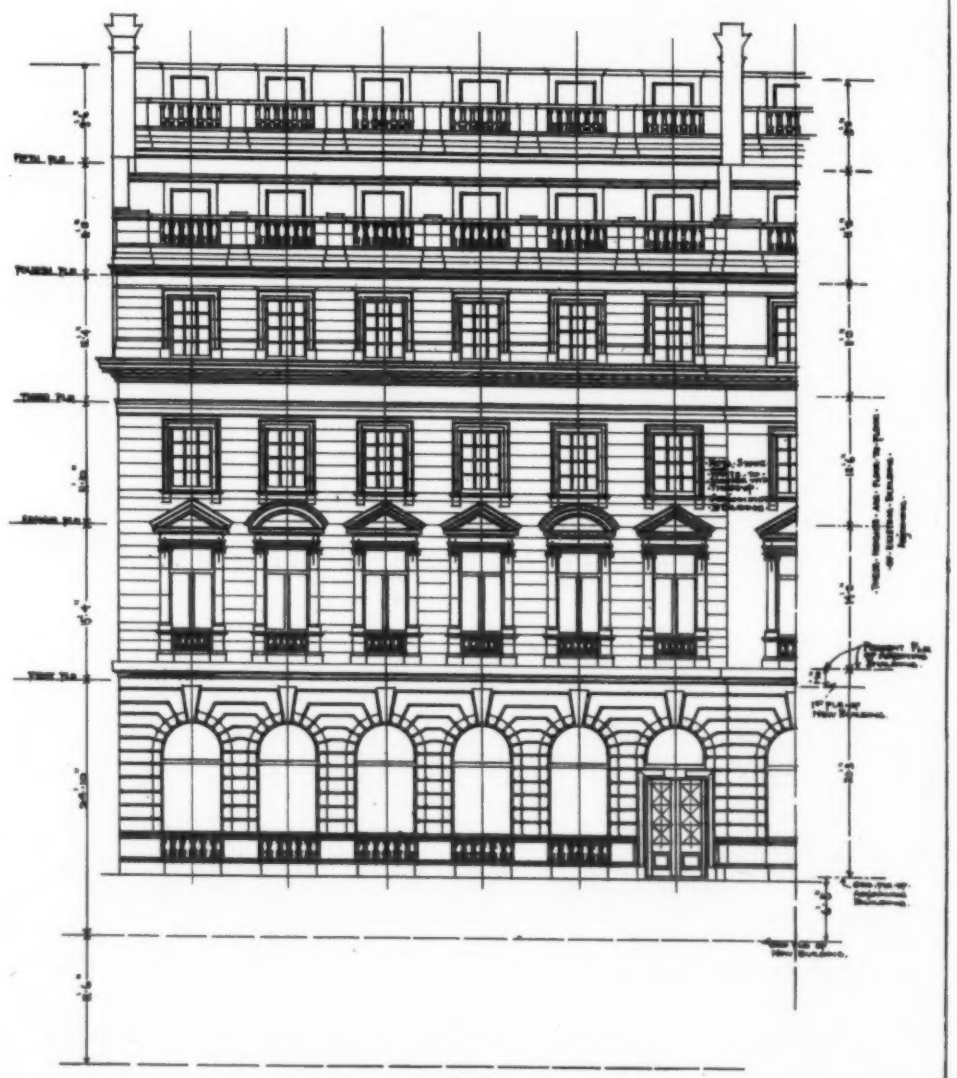
# NEW BANK PREMISES FOR MESSRS COX AND CO.

## Nos 1 to 6 WATERLOO PLACE, 6 to 8 PALL MALL, 25 to 27 CHARLES STREET, S.W





- ELEVATION TO PALL MALL -



SCALE, 8 FEET TO ONE INCH.

MESSRS. E. KEYNES PURCHASE, F.R.I.B.A., & DURWARD BROWN, ARCHITECTS.

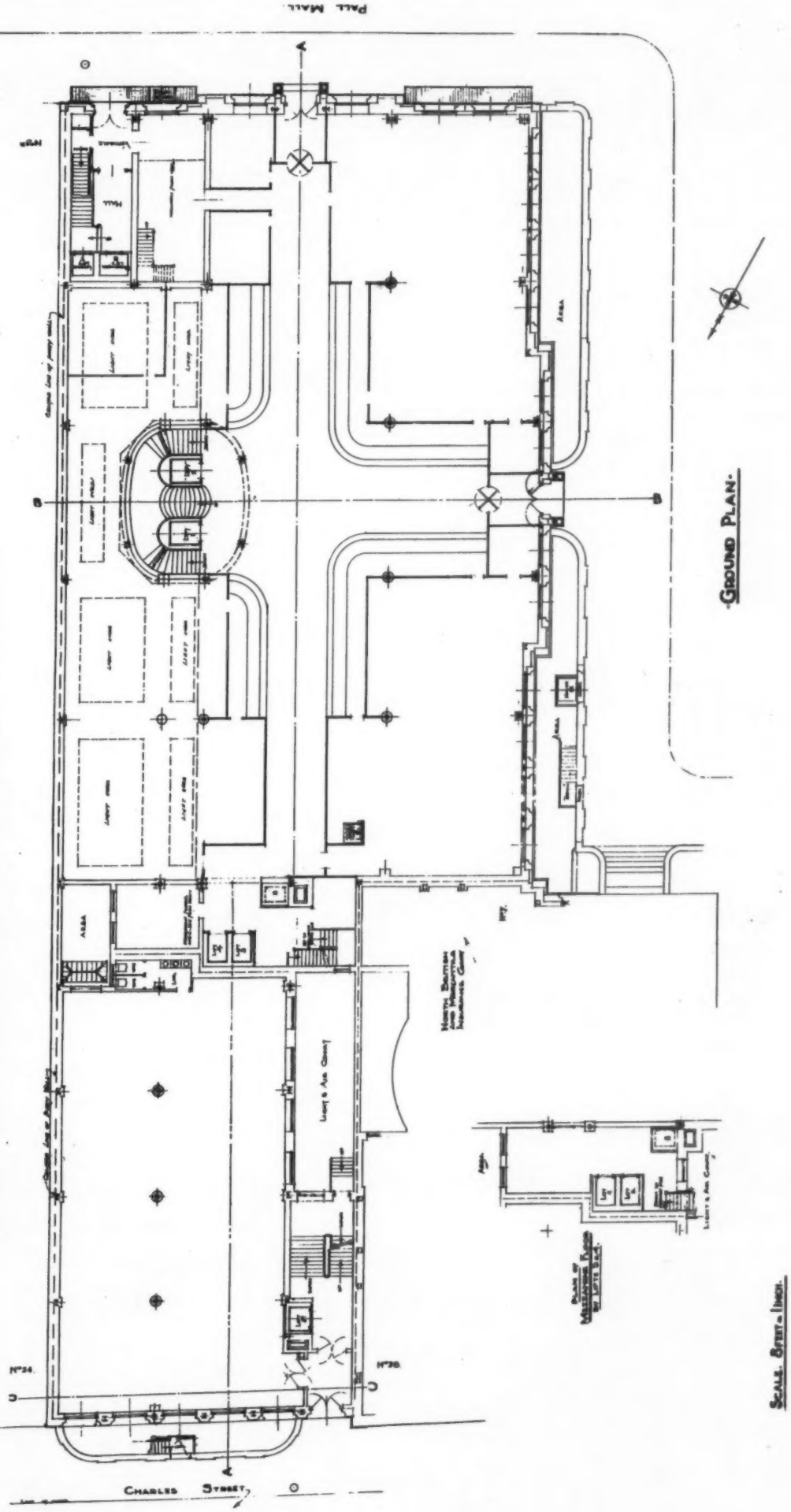
PREMISES: ST. MARY AXE, E.C. MR. STANLEY HAMP (MESSRS. COLLCUTT & HAMP), ARCHITECT.

PREMISES: ST. MARY AXE, E.C. MR. STANLEY HAMP (MESSRS. COLLCUTT & HAMP), ARCHITECT.

DRAWING No. 251.

# NEW BANK PREMISES FOR MESSRS COX AND CO.

## Nos. 1 TO 6 WATERLOO PLACE, 6 TO 8 PALL MALL, 25 TO 27 CHARLES STREET, S.W.




GROUND PLAN.

SCALE. 8 FEET = 1 INCH.

MESSRS. E. KEYNES PURCHASE, F.R.I.B.A., & DURWARD BROWN, ARCHITECTS.